



ICDAM 2023



INTERNATIONAL CONFERENCE ON DIET AND ACTIVITY METHODS

June 26 - 29 2023

University of Limerick, Ireland



PROGRAM AT A GLANCE

Monday, June 26

[Click here to view the full document.](#)

8:00 h		Pre-Conference Workshops			8:00 h
8:15 h					8:15 h
8:30 h	Pre-conference Registration Open 8:30h - 15:00h				8:30 h
8:45 h					8:45 h
9:00 h					9:00 h
9:15 h					9:15 h
9:30 h		Preconference Workshop 1: FOOD DATABASES TO SUPPORT NATIONAL DIETARY SURVEYS 930h-1730h Classroom C1060	Preconference Workshop 3: ADDRESSING MEASUREMENT ERROR IN DIET & PHYSICAL ACTIVITY ASSESSMENT 930h-1300h Classroom C1059	Preconference Workshop 4: CARBON FOOTPRINT SCORING FOR FOOD AND FOOD INDUSTRY 930h-1300h Classroom C1062	9:30 h
9:45 h					9:45 h
10:00 h					10:00 h
10:15 h					10:15 h
10:30 h					10:30 h
10:45 h					10:45 h
11:00 h		Refreshment Break and Networking 1100h-1130h Classroom C1061			11:00 h
11:15 h					11:15 h
11:30 h		Preconference Workshop 1: (continued) FOOD DATABASES TO SUPPORT NATIONAL DIETARY SURVEYS 930h-1730h Classroom C1060	Preconference Workshop 3: (continued) ADDRESSING MEASUREMENT ERROR IN DIET & PHYSICAL ACTIVITY ASSESSMENT 930h-1300h Classroom C1059	Preconference Workshop 4: (continued) CARBON FOOTPRINT SCORING FOR FOOD AND FOOD INDUSTRY 930h-1300h Classroom C1062	11:30 h
11:45 h					11:45 h
12:00 h				12:00 h	
12:15 h				12:15 h	
12:30 h				12:30 h	
12:45 h				12:45 h	
13:00 h	Lunch Break 1300h - 1400h Main Building, Eden Restaurant			13:00 h	
13:15 h				13:15 h	
13:30 h				13:30 h	
13:45 h				13:45 h	
14:00 h	Preconference Workshop 1: (continued) FOOD DATABASES TO SUPPORT NATIONAL DIETARY SURVEYS 930h-1730h Classroom C1060	Preconference Workshop 5: ASSESSMENT OF NUTRITION SECURITY 1400h -1730h Classroom C1062	Preconference Workshop 6: INTAKE24: PERSPECTIVES FROM MEASURING DIET AROUND THE WORLD 1400h -1730h Classroom C1059	14:00 h	
14:15 h				14:15 h	
14:30 h				14:30 h	
14:45 h				14:45 h	
15:00 h				15:00 h	
15:15 h				15:15 h	
15:30 h	Refreshment Break and Networking 1530h - 1600h Classroom C1061			15:30 h	
15:45 h				15:45 h	
16:00 h	Preconference Workshop 1: (continued) FOOD DATABASES TO SUPPORT NATIONAL DIETARY SURVEYS 930h-1730h Classroom C1060	Preconference Workshop 5: (continued) ASSESSMENT OF NUTRITION SECURITY 1400h -1730h Classroom C1062	Preconference Workshop 6: (continued) INTAKE24: PERSPECTIVES FROM MEASURING DIET AROUND THE WORLD 1400h -1730h Classroom C1059	16:00 h	
16:15 h				16:15 h	
16:30 h				16:30 h	
16:45 h				16:45 h	
17:00 h				17:00 h	
17:15 h				17:15 h	
17:30 h	ICDAM 2023 Opening Reception 1730h - 1900h Concert Hall Lobby			17:30 h	
17:45 h				17:45 h	
18:00 h				18:00 h	
18:15 h				18:15 h	
18:30 h				18:30 h	
18:45 h				18:45 h	

As of June 12 - program subject to change

Tuesday, June 27

[Click here to view the full document.](#)

8:00 h	Registration Desk Open 0800h-1730h Exhibitors 0800h-1730h	Day 1				8:00 h
8:15 h						8:15 h
8:30 h		Welcome: 0830h-0845h in Concert Hall				8:30 h
8:45 h		Keynote - Professor Genevieve Healy - University of Queensland, Australia 0845h-0945h Concert Hall				8:45 h
9:00 h						9:00 h
9:15 h						9:15 h
9:30 h						9:30 h
9:45 h		Coffee Break & Networking 0945h-1015h Concert Hall Lobby				9:45 h
10:00 h						10:00 h
10:15 h						10:15 h
10:30 h						10:30 h
10:45 h						10:45 h
11:00 h		Symposium 1 1015h-1215h Concert Hall				11:00 h
11:15 h		Symposium 2 1015h-1215h Classroom FG-042				11:15 h
11:30 h		Symposium 3 1015h-1215h Classroom FB-028				11:30 h
11:45 h						11:45 h
12:00 h						12:00 h
12:15 h						12:15 h
12:30 h						12:30 h
12:45 h		Poster Session 1 with Lunch 1215h-1400h Concert Hall Lobby				12:45 h
13:00 h						13:00 h
13:15 h						13:15 h
13:30 h						13:30 h
13:45 h						13:45 h
14:00 h		Oral Session 1 1400h-1500h Concert Hall				14:00 h
14:15 h		Oral Session 2 1400h-1500h Classroom FG-042				14:15 h
14:30 h		Oral Session 3 1400h-1500h Classroom FB-028				14:30 h
14:45 h						14:45 h
15:00 h	Coffee Break & Networking 1500h-1530h Concert Hall Library				15:00 h	
15:15 h					15:15 h	
15:30 h					15:30 h	
15:45 h					15:45 h	
16:00 h					16:00 h	
16:15 h	Symposium 4 1530h-1730h Concert Hall				16:15 h	
16:30 h	Symposium 5 1530h - 1730h Classroom FG-042				16:30 h	
16:45 h	Symposium 6 1530h - 1730h Classroom FG-028				16:45 h	
17:00 h	Symposium 10 1530h - 1730h Classroom C1060				17:00 h	
17:15 h					17:15 h	
17:30 h	Early Career Researcher Event Ask Me Anything! 1730h-1830h Classroom C1060				17:30 h	
17:45 h	Nutrients/Food Components in USA National Dietary Surveillance: Stakeholder Engagement 1730h-1830h Classroom C1061				17:45 h	
18:00 h					18:00 h	
18:15 h					18:15 h	

Wednesday, June 28

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8:00 h	Registration Desk Open 0800h-1730h	Exhibitors 0800h-1730h	Day 2			8:00 h
8:15 h						8:15 h
8:30 h			Keynote - Professor Clare Collins - University of Newcastle, Australia 0830h-0930h Concert Hall			8:30 h
8:45 h						8:45 h
9:00 h						9:00 h
9:15 h						9:15 h
9:30 h			Coffee Break & Networking 0930h-1000h Concert Hall Lobby			9:30 h
9:45 h						9:45 h
10:00 h			Symposium 7 1000h - 1200h Concert Hall	Symposium 8 1000h - 1200h Classroom FG-042	Symposium 9 1000h - 1200h Classroom FB-028	10:00 h
10:15 h						10:15 h
10:30 h						10:30 h
10:45 h						10:45 h
11:00 h						11:00 h
11:15 h						11:15 h
11:30 h						11:30 h
11:45 h						11:45 h
12:00 h			Poster Session 2 with Lunch 1200h-1345h Concert Hall Lobby			12:00 h
12:15 h						12:15 h
12:30 h						12:30 h
12:45 h						12:45 h
13:00 h						13:00 h
13:15 h						13:15 h
13:30 h				13:30 h		
13:45 h	Oral Session 4 1345h-1445h Concert Hall	Oral Session 5 1345h-1445h Classroom FG-042	Oral Session 6 1345h-1445h Classroom FB-028	13:45 h		
14:00 h				14:00 h		
14:15 h				14:15 h		
14:30 h				14:30 h		
14:45 h	Coffee Break 1445h-1500h Concert Hall Lobby			14:45 h		
15:00 h	Keynote - Professor Amos Laar - University of Ghana, Ghana 1500h-1600h Concert Hall			15:00 h		
15:15 h				15:15 h		
15:30 h				15:30 h		
15:45 h				15:45 h		
16:00 h	Transition Break 1600h-1615h			16:00 h		
16:15 h	Oral Session 7 1615h-1715h Concert Hall	Oral Session 8 1615h-1715h Classroom FG-042	Oral Session 9 1615h-1715h Classroom FB-028	16:15 h		
16:30 h				16:30 h		
16:45 h				16:45 h		
17:00 h				17:00 h		
17:15 h				17:15 h		
17:30 h	Personal Time 1715h-1830h			17:30 h		
17:45 h				17:45 h		
18:00 h				18:00 h		
18:15 h				18:15 h		
18:30 h	Bus Transportation to Limerick Strand Hotel 1830h			18:30 h		
18:45 h				18:45 h		
19:00 h				19:00 h		
19:15 h				19:15 h		
19:30 h				19:30 h		
19:45 h				19:45 h		
20:00 h				20:00 h		
20:15 h	Reception, Dinner + Entertainment 1900h-2200h			20:15 h		
20:30 h				20:30 h		
20:45 h				20:45 h		
21:00 h				21:00 h		
21:15 h				21:15 h		
21:30 h				21:30 h		
21:45 h				21:45 h		
22:00 h	Bus Transportation to accomodations - 2200h			22:00 h		

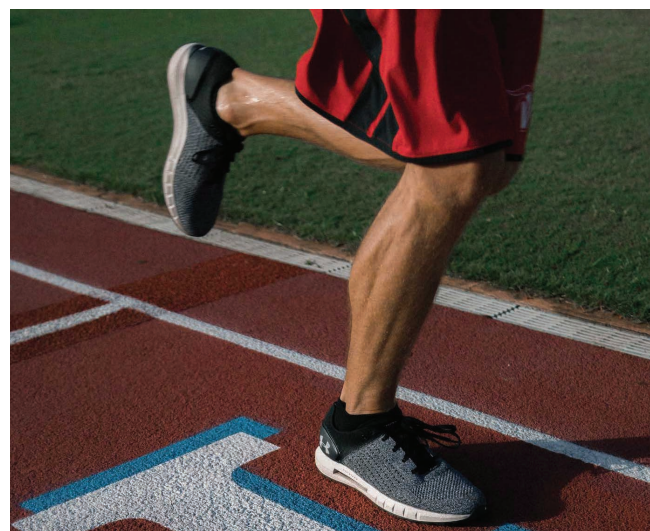
Thursday, June 29

[Click here to view the full document.](#)

8:00 h	Registration Desk Open 0800-1530 Exhibitors 0800h-1400h	Day 3			8:00 h		
8:15 h					8:15 h		
8:30 h		Keynote - Professor Ulf Ekelund - Norwegian School of Sport Sciences, Oslo, Norway 0830h-0930h Concert Hall			8:30 h		
8:45 h					8:45 h		
9:00 h					9:00 h		
9:15 h					9:15 h		
9:30 h		Transition Break 0930h-0945h			9:30 h		
9:45 h		Oral Session 10 0945h-1045h Concert Hall			9:45 h		
10:00 h					Oral Session 11 0945h-1045h Classroom FG-042	Oral Session 12 0945h-1045h Classroom FB-028	10:00 h
10:15 h					10:15 h	10:15 h	
10:30 h		Coffee Break & Networking 1045h-1115h Concert Hall Lobby			10:30 h		
10:45 h					10:45 h		
11:00 h		Oral Session 13 1115h-1215h Concert Hall			11:00 h		
11:15 h					Oral Session 14 1115h-1215h Classroom FG-042	Oral Session 15 1115h-1215h Classroom FB-028	11:15 h
11:30 h					11:30 h	11:30 h	
11:45 h		Poster Session 3 with Lunch 1215h-1400h Concert Hall Lobby			11:45 h		
12:00 h					12:00 h		
12:15 h					12:15 h		
12:30 h					12:30 h		
12:45 h		Navigating Opportunities and Pitfalls: Building a Career in Diet and Physical Activity Assessment 1400h-1500h Concert Hall			12:45 h		
13:00 h					13:00 h		
13:15 h					13:15 h		
13:30 h					13:30 h		
13:45 h		Closing Ceremony 1500h-1515h Concert Hall			13:45 h		
14:00 h					14:00 h		
14:15 h					14:15 h		
14:30 h					14:30 h		
14:45 h					14:45 h		
15:00 h				15:00 h			
15:15 h				15:15 h			

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WELCOME

Céad míle fáilte to the 2023 International Conference on Diet and Activity Methods (ICDAM). We are pleased to host this conference, and we hope that you will enjoy your time at our beautiful University of Limerick campus, with its trees, fountains, and the beautiful River Shannon.

The ICDAM2023 conference brings together leading researchers, new investigators, and research students who share an interest in the measurement of diet and physical activity. The conference will serve as a meeting point for young scientists and renowned experts in the dietary and physical activity measurement fields. We are also pleased that we have received many high-quality symposia and abstract submissions. The programme includes four keynote speakers, five workshops, 10 symposia, 60 oral presentations and 120 poster presentations. Our programme also includes events aimed at early career researchers, to help them network and develop their research careers. This is a global conference, with attendees from 29 countries across Europe, North and South America, Africa, Asia, Australia, and New Zealand. Taken together, this combination promises to set the stage for a stimulating and informative conference.

Social events include the opening reception on Monday evening in the University of Limerick Foundation Building and a banquet celebration on Wednesday evening in the Strand Hotel in Limerick city centre. Lunches and coffee breaks will also provide an opportunity for you to meet and network with colleagues.

We hope that visitors to our conference will have time to explore Ireland's unique scenery and culture and experience the *craic (fun)* in Limerick city and beyond. The unique landscape of the Burren, The Cliffs of Moher the Aran Islands, Connemara, the Dingle peninsula, and the Ring of Kerry are all within a few hours of our campus.

Our hosting of the conference would not be possible without the help and support of a good number of people. These include the International Steering Committee of ICDAM, especially Prof Sharon Kirkpatrick from the University of Waterloo, the ICDAM 2023 Scientific Committee, and especially the members of the ICDAM 2023 Local Organising Committee, whose work has brought this conference about.

Finally, we would like to thank each of you for joining us here in Limerick. On behalf of the local organising committee, we wish you a great conference with lots of opportunities to talk about your science, develop new collaborations and continue to move the field forward!

Go raibh maith agaibh!

Alan Donnelly, Conference Chair
University of Limerick

WELCOME

We are grateful to the organizing committee at the University of Limerick for hosting ICDAM 2023, marking the eleventh conference, with the first held in St. Paul, Minnesota over 30 years ago. ICDAM is the only international conference solely devoted to improving methods and measures for assessment of both diet and physical activity. We are excited about the range of research submitted to ICDAM 2023 and look forward to engaging with you over the next few days!

We are also thrilled to announce what's coming next:

International Society for Diet and Activity Methods (ISDAM)

We are pleased to be launching ISDAM! In addition to facilitating bi-annual conferences, ISDAM will seek to build the international community and support the advancement of diet and physical activity assessment methods. The Society will adopt a holistic perspective spanning the totality of eating and physical activity patterns and aiming to integrate researchers and practitioners from multiple disciplines, career stages, and international contexts. Please stay tuned for the launch of the ISDAM website in early 2024, as well as opportunities to get involved.

Thank you to the current members of our International Steering Committee, as well as those who have served on committees since 2018 and contributed to the development of a long-term structure to support ICDAM.

ICDAM 2025

We are thrilled to invite you to ICDAM 2025 in Toronto, Canada. Details will be available on the ISDAM website in early 2024, and proposals for workshops, symposia, and oral and poster presentations will be invited later in 2024. This will be the first time that ICDAM will take place in Canada. Toronto is a vibrant city, home to one of the most multicultural populations in the world and unique neighbourhoods and attractions.

ICDAM 2027

In 2024, ISDAM will launch a call for bids to host ICDAM 2027. ICDAM has been hosted in seven countries and we welcome the opportunity to bring our community together in another part of the world.

Thank you for your contributions to ICDAM and we look forward to continuing to engage with you to advance diet and physical activity assessment!

Sharon Kirkpatrick, *University of Waterloo*

On behalf of the International Steering Committee:

Salwa Albar, *King Abdulaziz University*

Janet Cade, *University of Leeds*

Megan Deitchler, *Intake – Center for Dietary Assessment, FHI 360*

Paul Hibbing, *University of Illinois at Chicago*

Benoît Lamarche, *Université Laval*

Tracy McCaffrey, *Monash University*

Pedro Saint-Maurice, *U.S. National Cancer Institute*

COMMITTEES

ICDAM 2023 Local Organising Committee

Alan Donnelly	University of Limerick, IRL
Sharon Kirkpatrick	University of Waterloo, CA
Sheila Bowers	University Hospital Limerick, IRL
Brian Carson	University of Limerick, IRL
Alexandra Cremona	University of Limerick, IRL
Kieran Dowd	Technological University of the Shannon, IRL
Anne Griffin	University of Limerick, IRL
Grainne Hayes	University of Limerick, IRL
Catherine Norton	University of Limerick, IRL
Eibhlis O'Connor	University of Limerick, IRL
Alan Scarry	University of Limerick, IRL
Audrey Tierney	University of Limerick, IRL

ICDAM 2023 International Scientific Committee

Pedro Saint-Maurice	National Cancer Institute, US
Malcolm Granat	University of Salford, UK
Karen Pfeiffer	Michigan State University, US
Jeanne de Vries	Wageningen University, NL
Julie Lovegrove	University of Reading, UK
Carol Boushey	University of Hawai'i Cancer Centre
Carolina Batis	National Institute of Public Health, Mexico
Antje Hebestreit	Leibniz Institute for Prevention Research and Epidemiology, DE
Sarah McNaughton	Deakin University, AUS

Thank-you to these ICDAM 2023 Abstract Reviewers

Dave Bassett	University of Tennessee, Knoxville
Carolina Batis	National Institute of Public Health, Mexico
Hendriek Boshuizen	Wageningen University and Research
Janet Cade	University of Leeds
Brian Carson	University of Limerick
Mai Chin A Paw	Amsterdam UMC
Clare Collins	University of Newcastle
Alexandra Cremona	University of Limerick
Sandra Crispim	Federal University of Paraná
Jeanne de Vries	Wageningen University and Research
Charlotte Edwardson	University of Leicester
Heather Eicher-Miller	Purdue University
Alison Eldridge	Nestlé Research
Maijaliisa Erkkola	University of Helsinki
Edith Feskens	Wageningen University and Research
Malcolm Granat	University of Salford
Anne Griffin	University of Limerick
Antje Hebestreit	Leibniz Institute for Prevention Research and Epidemiology - BIPS
Anne-Kathrin Illner	UniLaSalle
Deborah Kerr	Curtin University
Sharon Kirkpatrick	University of Waterloo
Edwige Landais	French National Research Institute for Sustainable Development (IRD)
Julia Lovegrove	University of Reading
Monica Mars	Wageningen University and Research
Sarah McNaughton	Deakin University
Mary Nicolaou	University of Amsterdam
Catherine Norton	University of Limerick
Marga Ocké	National Institute for Public Health and the Environment (RIVM), The Netherlands
Karin Pfeiffer	Michigan State University
Alan Scarry	University of Limerick

SPONSORS

ICDAM 2023 would like to thank the following:

BRONZE SPONSORS



Powered by:



ACTION LAB, MONASH UNIVERSITY

[Action Lab](#) is an impact-focused human-centred computing research group in the Faculty of Information Technology, Monash University Australia. The group is known for its award-winning designs, developments and deployments of large-scale open-source tools and participatory platforms. These include services and technologies in digital health (AX3, Intake24, Induk) and community technologies (Indaba, Paroli and Kuento). Several of Action Lab's systems are currently deployed as national and international digital services by INGOs and government departments, including headspace Australian, Vic Gov, the Australian Bureau of Statistics, Oxfam Bangladesh, Caritas, and the International Federation of Red Cross and Red Crescent Societies. [Contact us](#).



PAL TECHNOLOGIES

More than 22 years ago we launched the activPAL, the world's first single sensor solution for free-living Posture and Activities Logging. The activPAL is a discrete thigh-worn sensor designed to provide the researcher with objective measures of person-centered free-living physical behaviors. These Real World Outcomes (RWO) are based on an analysis of the patterns of participation in the primary activities of Lying, Sitting, Standing and Stepping (and the travel choices of Cycling and Car travel). In addition, the latest generation of the activPAL characterizes the locus of activity estimating the time spent in the primary household locus in comparison to the wider community loci. [Contact us](#).

EXHIBITOR



INTAKE - CENTER FOR DIETARY ASSESSMENT

[Intake](#) is a Center for Dietary Assessment established at FHI Solutions in 2016 with funding from the Bill & Melinda Gates Foundation. Intake aims to strengthen policies and programs to improve nutrition and health by increasing the availability, quality, comparability, and use of dietary data. Among our key areas of work is the development of technology, tools, and metrics to reduce barriers to dietary data collection, analysis, and use. Our technology, tools, and metrics are designed to provide feasible, low-cost, data-related solutions to make time-relevant, high-quality data on diets a feasible reality for all. [Contact us](#).

Please visit us and learn more at our exhibits in the Foyer of the Concert Hall

SUPPORTERS



Physical Activity *for* Health
HRI Research Centre
University of Limerick



GENERAL INFORMATION

CONFERENCE VENUE

University Concert Hall
Foundation Building
Sreelane
Castleroy
Co. Limerick
V94PX58
Ireland

ICDAM 2023 will be located in the University Concert Hall (UCH) on the University of Limerick Campus. It is identified with #11 on the campus map.

[Getting from University of Limerick campus to Limerick City](#)
[Free Now taxi app](#)

CONFERENCE CONTACT

E: icdam@podiumconferences.com

Or contact us through the Networking feature on the Pheedloop ICDAM 2023 App.

INTERNET & WIFI ACCESS

Wireless internet (Wi-Fi) will be available free of charge. Wireless Network: ul_guest. Selecting this network will bring the guest to the University of Limerick Guest WiFi Portal.

- Select "Sign UP (Valid of 7 Days)"
- Enter valid email address, accept terms, click Register
- N.B Proceed to open your email client and click on the link in the email to validate your registration to gain network access.

EduRoam is available on the University of Limerick campus if you are already registered at another higher education institution.

EMERGENCY DETAILS WHILE ATTENDING EVENTS AT THE UCH

In the event of an emergency, please walk as quickly as possible to the nearest exit and make your way outside to the UCH Premises while at all times following the instructions of staff members. Do not delay and do not return until you are advised that it is safe to do so.

CONFERENCE ACCOMMODATION

Cappavilla Village
University of Limerick
T: 353 61 235700
E: conference@ul.ie

Kilmurry Lodge Hotel
Dublin Road
T: 353 (0)61 331133
E: info@kilmurrylodge.com

Castletroy Park Hotel
University Gates
Dublin Road
T: 353 (0)61 335566
E: reception@castletroypark.ie

CONFERENCE REGISTRATION

Full registration for the conference includes admission to all sessions (Tuesday-Thursday), the Opening Reception (Monday), lunch and refreshment breaks (Tuesday-Thursday) as well as complimentary Wi-Fi in the conference space.

Full-day workshops registration includes Monday lunch and refreshment breaks. Half-day workshops include refreshment breaks.

Tickets for the ICDAM 2023 Conference Dinner at the Limerick Strand Hotel (Wednesday, June 28/18:30-22:30) may be purchased through the [registration portal](#) by Friday, June 16.

CONFERENCE PROGRAM

[Visit the program page of the ICDAM website](#) to view listings of the Orals, Posters, Symposia, and Workshops.

PHEEDLOOP INFORMATION

Download the ICDAM 2023 conference app – Pheedloop – for the most current program information, abstracts, and the opportunity to network with other delegates. Create your own schedule, review talks and even make plans for the evenings. Scan the QR code below to load it on your devices!



NAME BADGES

All ICDAM 2023 attendees are required to wear their name badge to all sessions and social functions.

Entrance into sessions is restricted to registered ICDAM 2023 attendees. If you misplace your name badge, please see staff at the conference registration desk to arrange a replacement (\$25 replacement fee). At the end of the conference we ask that you return your badge to the registration desk, or at one of the badge recycling stations

DIETARY REQUESTS

If you have advised the Conference Secretariat of special dietary requirements, please check in at the Registration Desk on-site for further instructions.

EXHIBITS

Exhibitor displays can be located in the Foyer of the Concert Hall, Foundation Building and can be accessed at the following times:

Tuesday, 27 June	08:00 – 17:30
Wednesday, 28 June	08:00 – 17:15
Thursday, 29 June	08:00 – 14:00

POSTER INFORMATION

There are three Poster Sessions during the conference. Posters will also be available for viewing during coffee break & networking periods. Please ensure you set up your poster in the location designated to your poster number. Poster presenters must set-up and remove their posters according to the indicated times:

Poster Session 1

Tuesday, June 27
Set Up: Between 09:45–10:15
Session Time: 12:15–14:00
Tear Down: 15:30–17:30

Poster Session 2

Wednesday, June 28
Set Up: Between 08:00–10:00
Session Time: 12:00–13:45
Tear Down: 15:00–17:15

Poster Session 3

Thursday, June 29
Set Up: Between 08:00–09:30
Session Time: 12:15–14:00
Tear Down: 14:00–15:30

Any posters that are not taken down by the removal deadline will be held at the registration desk until the end of the conference. Any posters that remain unclaimed by the end of the conference will be disposed of. Information on Poster Authors (Primary), Poster Numbers and Poster Titles begins on page 52.

SPEAKER INFORMATION

For all sessions, each classroom will be equipped with

- Projector and screen (please use 16:9 slide ratio)
- Laptop
- Lectern Microphone

For oral and symposia sessions, presentation slides will be loaded onto the classroom's laptop in advance. To ensure that there aren't any unforeseen formatting or compatibility issues, all speakers are requested to provide/upload their presentation via USB stick at the Registration Desk according to the following schedules:

- Symposia 1-3: Upload on Monday 17:30-19:00
- Symposia 4-6 and 10: Upload on Tuesday 08:30-13:00
- Symposia 7-9: Upload on Tuesday 13:00-17:30
- Oral Sessions 1-3: Upload on Tuesday 08:30-13:00
- Oral Sessions 4-9: Upload on Tuesday 13:00-17:30
- Oral Sessions 10-15: Upload on Wednesday 09:30-13:45

If you have any questions, please visit the registration desk.

Please refer to the digital program on Pheedloop for a full listing of abstracts and presentation times.

MOBILE PHONES & ELECTRONIC DEVICES

As a courtesy to speakers and your fellow delegates, please switch off phones and electronic devices during presentations and whilst in session.

DUPLICATION/RECORDING

Unauthorised photography, audio taping, video recording, digital taping or any other form of duplication is prohibited in the conference sessions.

WATER REFILL STATIONS

You may request water refills at the Café Allegro near the Concert Hall. Please refer to this map for other [water refilling stations](#) on campus.

SMOKING

Please note that the University of Limerick is a smoke and vape free campus.

REGISTRATION AND INFORMATION DESK

For workshop participants, registration will open 08:30 – 15:00 on Monday, 26 June, and will be located in the Main Building in Classroom C1061.

The Registration Desk will then be located in the Foyer of the Concert Hall, Foundation Building for the following times:

Monday, 26 June	17:30 – 19:00
Tuesday, 27 June	08:00 – 17:30
Wednesday, 28 June	08:00 – 17:15
Thursday, 29 June	08:00 – 15:30

CONFERENCE SECRETARIAT

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Staff from Podium Conference Specialists can be identified by bright orange **STAFF** ribbons on their name badges. ICDAM Volunteers can be identified by the yellow **VOLUNTEER** ribbons on their name badges. Feel free to ask anyone of our staff for assistance. For immediate assistance please visit us at the registration desk.

SPECIAL EVENTS

Opening Reception

Monday, June 26 (17:30-19:00)

This informal kick off to ICDAM 2023 will take place on-campus in the University Concert Hall lobby. Meet up with old friends and be introduced to new ones! Light canapes will be served and a complimentary beverage will be provided with a cash bar also available. Admission is included in your conference fees. Attendees are welcome to bring a guest with advance tickets available for purchase during the registration process by Friday June 16.

Early Career Event: Ask Me Anything

Tuesday, June 27 (17:30-18:30)

Location: C1060

Join the early career researchers from ICDAM for a discussion on a career in nutrition and physical activity methods. Find out how to get started in the industry of physical activity or diet, and the daily demands that each of our panel members faces in their organisations, along with the future of the industry. Find out what inspired our global panel to pursue their career so you can gain knowledge and understanding that might help you advance your own career. The outdoor networking event, an informal walk of the grounds of the University, will take place directly following the panel.

Pre-registration required. Limited to 50 participants.

Moderator: **Alan Scarry**, *University of Limerick*

Panel: **Didier Brassard**, *McGill University*
Thayse Natacha Gomes, *University of Limerick*
Lauren O'Connor, *United States Department of Agriculture (USDA)*
Nana Shinozaki, *University of Tokyo*
Kamila Tiemann Gabe, *University of São Paulo*

Takeaways

- Discover best practices for careers in physical activity / and diet.
- Talk with a panel of experts, hear about their professional experience.
- Explore different options for branching into a variety of field connected to diet and physical activity.

Nutrients/Food Components in USA National Dietary Surveillance: Stakeholder Engagement

Tuesday, June 27 (17:30-18:30)

Location: C1061

Speakers: **Kelly Kogan**, *Food Surveys Research Group, Agricultural Research Service, US Department of Agriculture*
Diane Mitchell, *Institute for Advancing Health Through Agriculture(IHA), Texas A&M AgriLife Research*

The USA's first national food consumption survey was conducted in 1965-1966, reporting dietary intakes food energy and 9 nutrients. Today, national dietary surveillance reports 64 nutrients in addition to food energy. Learn about a new project launched in the US to evaluate current nutrients and food components and what other nutrients might be needed for nutrition monitoring and research.

Conference Dinner

Wednesday, June 28 (19:00-22:30)

The ICDAM 2023 Conference Dinner will be held at the Limerick Strand Hotel on Wednesday, June 28 from 19:00-22:30. Tickets for delegates and guests may be purchased through the [registration portal](#) until Friday, June 16.

Transportation to the Strand Hotel will be provided from 3 locations:

- The Cappavilla Residences on Campus
- The Kilmurry Lodge
- The Castletroy Park Hotel.
- If you are staying at another location and wish to travel via the coach to and from the Strand Hotel, please make your way to one of the above locations.

The coach will depart the Cappavilla at 18:30 and stop at the Kilmurry and Castletroy locations enroute to the Limerick Strand. Please ensure you arrive by 18:20 in order to facilitate on-time departure and ease of loading. A University of Limerick volunteer will be situated at each pick up location to assist with loading.

Return transportation from the Limerick Strand to the three locations (Cappavilla, Kilmurry, and Castletroy) will begin departing from the Limerick Strand at 22:00.

A LITTLE INFORMATION ABOUT LIMERICK AND THE UNIVERSITY OF LIMERICK

At the heart of Ireland's Shannon Region is the historic city of Limerick and the Irish Welcome. More recently it has been creating a name for itself as a key destination for business and sports tourism. Offering visitors the best of both worlds: modern hotels and venues in an energizing setting with the spectacular backdrop of Ireland's Wild Atlantic Way, a vision of Ireland's picture postcard appeal.

- Discover Limerick's Medieval Quarter; from King John's Castle, to Treaty City Brewery or Perhaps visit one of Limerick's oldest buildings, St Mary's Cathedral
- Soak up the famous sites & fascinating history as you kayak in the heart of Limerick City with GetWest
- Take in a stadium tour of the Iconic Thomond Park Rugby Stadium in Limerick City
- Visit Adare, Ireland's prettiest village
- Discover Ireland's 1st capital of culture on the Limerick City Art Trail and enjoy a mini glass making workshop at the city's glorious Hunt Museum
- Whizz around Ireland's west coast on E-Whizz Electric Bikes and take a bike ride with a difference think scenery, Historic sites, local pubs, fabulous food, and of course, the bit of banter with the locals
- Get wild in the Ballyhoura Mountains and bike the largest trailnetwork of its kind in Ireland. 98km of forest road climbs, tighttwisty track with loads of ups, downs, board walk, and tightturns that are guaranteed to leave you smiling

The University of Limerick is ranked in the top 20 Universities on the UK GreenMetric ranking.

Also, the University holds a Green Flag Award from An Taisce (an independent Irish charity, which focuses on the preservation and protection of Ireland's natural and built heritage). This award recognises the University's involvement in environmental education, management and action in enhancing sustainability on campus.

The University of Limerick has formed, the 'Healthy UL' initiative in response to the Irish Government's 'Healthy Ireland' Framework (2013- 2025) launched in 2013, which aims to improve health and wellbeing across the country. Healthy UL is a cross campus initiative in UL, which has target areas including areas of healthy eating and exercise. Specific outcomes and deliverables of this initiative which are already underway include:

- Campus-wide availability of energy and nutrient information at point of selection.
- Availability of healthy, affordable and culturally appropriate food in food outlets and vending machines around campus.
- An annual calendar of physical activity events

Explore, experience, and relax in the natural beauty of UL's flora and fauna.

[Click here for the walking trails maps.](#)



CAMPUS MAP



- 3 Castletroy Park Hotel and the way to City Centre
- 11 Foundation Building and University Concert Hall: Main registration, opening reception, lunch/refreshment breaks, posters, keynotes, all sessions
- 13 Main University Building: Monday workshops, registration, lunch/refreshment breaks
- 31 The Living Bridge
- 38 Cappavilla Student Village
- 43 To Limerick City Centre
- 45 Kilmurry Lodge (general location - exact location falls off map)

[Click here for a full campus map of University of Limerick](#)

KEYNOTE SPEAKERS



TUESDAY, JUNE 27, 2023 0845 – 0945

Measuring Sedentary Behaviour Across the Lifespan

Professor Genevieve Healy, *University of Queensland, New Zealand*

Professor Genevieve Healy is a global leader in sedentary behaviour in adults. Her research focuses on understanding how much we sit and how this influences our health and wellbeing, as well as the feasibility and acceptability of reducing this behaviour in key settings and populations, with a particular focus on desk based workers. Her work has influenced policy and guidelines regarding the importance of reducing prolonged sitting time, and she works with multiple industry and partner organisations to translate her research into practice.

MEASURING SEDENTARY BEHAVIOUR ACROSS THE LIFESPAN

Higher amounts of sedentary behaviour – sitting, lying or reclining with low energy expenditure – are associated with increased risk of all-cause, cardiovascular disease, and cancer mortality as well as increased incidence of type 2 diabetes, cancer and cardiovascular disease. Physical activity guidelines across multiple countries and from the World Health Organization now include specific recommendations regarding sedentary time, as well as physical activity. These guidelines span across the lifespan and across at-risk populations. Many also include recommendations regarding the pattern and/or type of sedentary behaviour, not just total amount. To understand and track who is meeting recommendations (and who is not), appropriate measures of sedentary behaviour are needed.

Sedentary behaviour is habitual and pervasive across the day and across settings, making recall difficult. Time spent in sedentary behaviour is also driven by multiple levels of influence, with the opportunity to change behaviour informed by these influences. Importantly, sedentary behaviour is not a dichotomous behaviour - some sedentary behaviour is needed for rest and recovery, and some types of sedentary behaviour have been shown to have beneficial impacts. Given the compositional nature of daily activity, changes in the time spent sedentary also needs understanding of what the sedentary time has been replaced with. Measurement of sedentary time needs consideration of these multiple factors.

This keynote will provide an overview of why sedentary behaviour is important to measure and the fundamentals of measuring sedentary time, including the pros and cons of self-report and device-based measures. It will then discuss some of the opportunities and possibilities available, as well as considerations for measurement in this ever-changing world.



WEDNESDAY, JUNE 28, 2023 0830-0930

Challenges and Opportunities in Assessing Diet Across the Lifespan: Pot of gold or Pandora's Box?

Professor Clare Collins, *University of Newcastle, Australia*

Professor Collins is the most successful research dietitian in Australia, she has been awarded over \$21 million dollars in research grants. Her innovative and world leading research creates new technologies to evaluate nutrition and dietary intake, and how improving nutrition, diet quality, food patterns can facilitate improved weight and health across all ages and stages of life and for those with chronic health conditions.

CHALLENGES AND OPPORTUNITIES IN ASSESSING DIET ACROSS THE LIFESPAN; POT OF GOLD OR PANDORA'S BOX?

What people eat and drink is fundamental to health and well-being across the lifespan. Poor eating habits contribute to one in five deaths globally and are a major component in global burden of disease and development of risk factors for major chronic diseases including cardiovascular disease, type 2 diabetes, and some specific cancers. Nutrition is integral to prevention and treatment with dietary assessment essential for surveillance of both under- and overnutrition, in nutritional epidemiology and as a component of interventions for primary and secondary prevention. Rapid developments in the fields of genomics and metabolomics mean the ability to tailor individual dietary advice to personalised genetic risk lies tantalisingly on the horizon. Hence the importance of accurate quantification of dietary intake has once again been brought into the spotlight. Greater understanding of variations in digestion and metabolism relative to genetic variation is central to developments in this field of precision nutrition. Food choices, food composition and actual consumption patterns are complex and can change over time based on personal factors including age life stage and health status, as well as due to external factors that affect the food supply or choices including season, climate and geography as well as advertising and marketing. How accurately dietary intake can be measured is well recognised as challenging. Most dietary assessment methods rely on retrospective self-report measures or prospective, active self-recording. The inherent error associated with dietary data has recently been debated globally and the need to better understand measurement error has contributed to advancing the field and recommendations for research. The use of recovery and concentration biomarkers, albeit few, can assist in quantifying the degree of error relative to the dietary method used. Development of future biomarker studies, including using dietary metabolomics, will continue to refine recommendations for both dietary assessment methods and statistical approaches to adjust for inherent error. Development and use of image based and automated online technologies to assess dietary intake has accelerated, including image-based methods, wearable sensors, and assessment devices both as stand-alone and alongside traditional dietary assessment methods. In addition, the range of dietary biomarkers has expanded with the field of nutritional metabolomics accelerating. Importantly, technology-based methods have potential to overcome some barriers related to time, cost and burden for both researchers and individuals. Given what people eat is potentially modifiable, there is an urgent need to integrate assessment with timely reporting of findings at both the individual and population level. Therefore, progressing methods that improve accuracy of dietary assessment and that help identify dietary patterns amenable to change is critical to enhancing both knowledge of diet-disease relationships and development of evidence-based dietary guidelines to optimise nutrition related health and wellbeing across the lifespan.



WEDNESDAY, JUNE 28, 2023 1500-1600

Valorizing food environments research and increasing demand for healthy food policy in Africa: Lessons from Ghana

Professor Amos Laar, *University of Ghana*

Amos Laar is a Professor of Public Health Nutrition at the University of Ghana School of Public Health, Accra, Ghana. Currently, his research and professional practice straddle two distinct, yet related areas of public health – bioethics and public health nutrition. His work examines how structural violence, social forces, and commercial forces influence the realization of health. He is the Principal Investigator (PI) of the IDRC-funded ‘MEALS4NCDs Project’ which is providing Measurements, Evaluation, Accountability and Leadership Support to Ghanaian actors desirous of preventing NCDs. He is the PI of the IDRC/Rockefeller Foundation-funded ‘Healthier Diets for Healthy Lives (HD4HL) Project’, which is supporting the Ghanaian Ministry of Health to develop a Nutrient Profiling System to underpin a bundle of double-duty food-based policies (public food procurement and service policy, front of pack labelling policy, marketing restrictions policy, and food-related fiscal policy). He leads the Advocating for Ghana’s Health (A4H) Project Coalition, which among others, aims to create a favorable environment and stakeholder buy-in for food-related fiscal policies. In 2019, he was recognized in the Lancet Diabetes & Endocrinology for his contribution to combating diet-related non-communicable diseases in Ghana. He served as the President of the African Nutrition Society from 2016 to 20220, and currently a Fellow of the Ghana Academy of Arts and Sciences.

VALORIZING FOOD ENVIRONMENTS RESEARCH AND INCREASING DEMAND FOR HEALTHY FOOD POLICY IN AFRICA: LESSONS FROM GHANA

Amidst a high burden of infectious diseases, undernutrition, and micronutrient deficiencies, non-communicable diseases (NCDs) are predicted to become the leading cause of death in Africa by 2030. The world over, NCDs are driven largely by unhealthy food environments. Concerned, the Ghana Ministry of Health has since 2012 sought to garner multi-stakeholder contribution to the development and implementation of NCDs prevention policies and programmes. However, data poverty and policy inertia presented critical challenges. I aim to share how a public interest Coalition used context-relevant food environments research, evidence-informed advocacy, and scholar activism to create a favorable environment and stakeholder buy-in for food-based policies in Ghana. Made possible by the food environments research, the Coalition’s food activism work included informed discourses about food systems, food environments, food ethics, food literacy, food policy, and food security. Tangibly, this work has valorized and increased demand for a fit-for-local purpose double-duty food-based policy bundle (comprising marketing regulations, front-of-pack nutrition labelling, food-related health taxes, and public food procurement policy). Passed by the Ghanaian Parliament, and assented to by the President on April 3 2023, Ghana currently imposes a 20% health tax on sugar-sweetened beverages and other health-harming commodities.



THURSDAY, JUNE 29, 2023 0830-0930

Dose-Response Associations Between Physical Activity And Risk For Mortality - Lessons Learned From Self-Reported And Device-Measured Physical Activity

Professor Ulf Ekelund, *Norwegian School of Sport Sciences, Norway*

Professor Ekelund is a world leading expert in measurement and population levels of physical activity and understanding the biological basis for physical activity and sedentary behaviour with a special focus on young people. His main research areas include assessment of physical activity and sedentary time; patterns and trends in population levels of physical activity; the role of sedentary time and physical activity for preventing chronic diseases; and early life determinants of physical activity behaviors and its interaction with health outcomes across the life course.

DOSE-RESPONSE ASSOCIATIONS BETWEEN PHYSICAL ACTIVITY AND RISK FOR MORTALITY - LESSONS LEARNED FROM SELF-REPORTED AND DEVICE-MEASURED PHYSICAL ACTIVITY

In the first Lancet series on physical activity in 2012, Lee et al (1) estimated that physical inactivity caused more than 5 million deaths (9% of total deaths) globally every year. More recent updates suggest that 7.2% and 7.6% of all-cause and cardio-vascular deaths, respectively, are attributable to physical inactivity, operationalised as not meeting the WHO 2020 physical activity guidelines (2). The relative burden of physical inactivity is greatest in high income countries whereas the absolute number of deaths due to inactivity is highest in middle-income countries (2). In contrast, the Global Burden of Disease study (3) estimates considerably lower numbers of deaths, equal to less than 1 million deaths, attributable to physical inactivity annually. These previous studies estimated the number of deaths that could be prevented using self-report physical activity data and estimated the population attributable fraction as a dichotomous variable, meeting or not meeting the physical activity recommendations (1, 2) or using methods that deviate substantially from established thresholds for optimal levels of physical activity (3). Despite almost global coverage, self-report data used to estimate the prevalence of physically inactive individuals are likely biased due to misclassification. For example, the reported prevalence of physical activity is substantially larger from self-report than from device-measured physical activity. Further, the dose-response association between physical activity and risk of death suggest a maximal risk reduction that is larger in magnitude at lower levels of physical activity from device-measured physical activity compared with self-report (4). The aim of this key note is to discuss differences in methodology (self-report vs device-based methods) when examining the associations between physical activity and risk for morbidity and mortality and when estimating the number of deaths that can be averted by physical activity on population level.

References

1. Lee et al. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet* 2012;380:219-29
2. Katzmarzyk et al. Physical inactivity and non-communicable disease burden in lowincome, middle-income and high-income countries. *Br J Sports Med* 2022;56:101-06
3. GBD 2019 Risk Factors Collaborators. Global burden of 87 risk factors in 204 countries and territories, 1990-2019: a systematic analysis for the global burden of disease study 2019. *Lancet* 2020;396:1223-49.
4. Ekelund et al. Dose-response associations between accelerometry measured physical activity and sedentary time and all cause mortality: systematic review and harmonised meta-analysis. *BMJ* 2019; 366:l4570

DETAILED PROGRAM

MONDAY, JUNE 26, 2023

0830-1500 Workshop Registration
Location: Main Building, Classroom C1061

Pre-Conference Workshops

0930-1730 **WORKSHOP 1**
FOOD DATABASES TO SUPPORT NATIONAL DIETARY SURVEYS: EXPERIENCES, CHALLENGES, AND PERSPECTIVES
Location: Classroom C1060

0930-1300 **WORKSHOP 3**
ADDRESSING MEASUREMENT ERROR IN DIET AND PHYSICAL ACTIVITY ASSESSMENT
Location: Classroom C1059

0930-1300 **WORKSHOP 4**
CARBON FOOTPRINT SCORING FOR FOOD AND FOOD INDUSTRY
Location: Classroom C1062

1100-1130 Refreshment Break & Networking
Location: Main Building, Classroom C1061

1300-1400 Lunch Break
Location: Main Building, Eden Restaurant

1400-1730 **WORKSHOP 5**
ASSESSMENT OF NUTRITION SECURITY: A WORKSHOP FOR SELECTION, DEVELOPMENT, TAILORING, IMPLEMENTATION, ANALYSIS, AND TRANSLATION OF MIXED METHODS AND MEASURES
Location: Classroom C1062

1400-1730 **WORKSHOP 6**
INTAKE24: PERSPECTIVES FROM MEASURING DIET AROUND THE WORLD
Location: Classroom C1059

1530-1600 Refreshment Break & Networking
Location: Main Building, Classroom C1061

1730-1900 **Conference Registration Open**
Location: University Concert Hall Lobby

1730-1900 **ICDAM 2023 Opening Reception**
Location: University Concert Hall Lobby

TUESDAY, JUNE 27, 2023

0800-1730 Registration Open
Location: Concert Hall Lobby

0830-0845 Welcome to ICDAM 2023
Location: Concert Hall
Alan Donnelly, ICDAM 2023 Conference Chair

0845-0945 Opening Keynote: **Genevieve Healy**, *University of Queensland*
Measuring Sedentary Behaviour Across the Lifespan
Location: Concert Hall
Moderator: **Alan Donnelly**

0945-1015 Refreshment Break & Networking
Location: Concert Hall Lobby

1015-1215 **SYMPOSIA 1, 2, AND 3**

S.01 **FOOD CONSUMPTION AWAY FROM HOME: CHALLENGES AND METHODS DEVELOPMENT TO IMPROVE ITS MEASUREMENT**
Location: Concert Hall

Chair: **Edwige Landis**

Participants: **Adeeba Ishaq, Michael Sharp, Eric Verger, Sandra Crispim**

S.02 **ASSESSING ADHERENCE TO THE 2018 WORLD CANCER RESEARCH FUND (WCRF)/ AMERICAN INSTITUTE FOR CANCER RESEARCH**
Location: Classroom FG-042

Co-Chairs: **Marissa Shams-White & Giota Mitrou**

Participants: **Marissa Shams-White, Fiona Malcomson, Alice Chaplin, Giota Mitrou**

S.03 **INTEGRATING TIMING OF DIET, PHYSICAL ACTIVITY, AND SLEEP OVER TIME TO DETERMINE LINKS TO HEALTH**
Location: Classroom FB-028

Chair: **Heather Eicher-Miller**

Discussant: **Sarah McNaughton**

Participants: **Rebecca Leech, Heather Eicher-Miller, Sarah McNaughton**

1215-1400 Poster Session 1 with Lunch
Location: Concert Hall Lobby

1400-1500 **ORAL SESSIONS 1, 2, AND 3**

01 METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH – 1

Location: Concert Hall

Session Chair: **Anne Griffin**

OS.01.01 **COGNITIVE TESTING OF A DIETARY HABITS QUESTIONNAIRE FOR THE NATIONAL NUTRITION SURVEY IN NEW ZEALAND**
Berit Follong, *University of Auckland*

OS.01.02 **EATING IN SWEDEN 3: DIETARY ACCULTURATION PATTERNS ASSESSED USING RIKSMATENFLEX AMONG SYRIAN, IRAQI AND SOMALI-BORN WOMEN LIVING IN SWEDEN**
Marleen Lentjes, *Örebro University*

OS.01.03 **COMPARISON OF A NOVEL MEAL-BASED METHOD OF DIETARY ASSESSMENT AND A 24-HOUR RECALL**
Cathal O'Hara, *University College Dublin*

OS.01.04 **DEVELOPMENT AND VALIDATION OF AN EXPERIENCE SAMPLING DIETARY ASSESSMENT METHOD: A PILOT STUDY**
Joke Verbeke, *KU Leuven*

02 CONTEXTUAL FACTORS (E.G., ENVIRONMENTAL MODIFIERS)

Location: Classroom FG-042

Session Chair: [Genevieve Healy](#)

- OS.02.01 FROM MEAT TO MEATLESS: FACTORS INFLUENCING MEAL CONSUMPTION AND A MARKOV MULTI-STATE MODEL TO ASSESS TRANSITIONS BETWEEN MEALS
[Catarina Carvalho](#), *University of Porto*
- OS.02.02 CHRONOTYPE: ASSOCIATIONS WITH CIRCADIAN RHYTHM DISRUPTING EATING BEHAVIOURS AND CIRCADIAN MISALIGNMENT IN WOMEN AFTER BREAST CANCER
[Marleen Lentjes](#), *Örebro University*
- OS.02.03 ARE THERE ETHNIC INEQUITIES IN DIET QUALITY IN CANADA? A NATIONALLY REPRESENTATIVE ANALYSIS OF TRENDS BETWEEN 2004 AND 2015
[Dana Lee Olstad](#), *University of Calgary*
- OS.02.04 ASSESSING DIETARY ADEQUACY AND TEMPORAL VARIABILITY IN THE CONTEXT OF COVID 19 AMONG INDIGENOUS AND RURAL COMMUNITIES IN KANUNGU DISTRICT, UGANDA: A MIXED-METHODS STUDY
[Giulia Scarpa](#), *University of Leeds*

03 DATABASE DEVELOPMENT AND RESOURCES

Location: FB-028

Session Chair: [Sarah McNaughton](#)

- OS.03.01 MULTI-COUNTRY COMPARISON OF ULTRA-PROCESSED FOOD INTAKE USING DIETARY INTAKE DATA COLLECTED THROUGH THE AUTOMATED SELF-ADMINISTERED 24-HOUR DIETARY ASSESSMENT TOOL
[Kamila Gabe](#), *University of Sao Paulo*
- OS.03.02 ADVANCEMENTS IN THE US NATIONAL DIETARY SURVEILLANCE DATABASE TO GENERATE NUTRIENT PROFILES FOR BABY FOODS AND READY-TO-EAT CEREALS
[Suzanne Morton](#), *US Department of Agriculture*
- OS.03.03 AN APPROACH TO STANDARDIZED APPLICATION OF THE NOVA FOOD PROCESSING CLASSIFICATION SYSTEM TO US DIETARY SURVEILLANCE DATA
[Lauren O'Connor](#), *US Department of Agriculture*
- OS.03.04 THE INTEGRATION OF DIETARY BIOACTIVE INTAKE ANALYSIS TO LIBRO FOOD RECORD APP
[Liangzi Zhang](#), *Quadram Institute*

1500-1530 Refreshment Break & Networking

Location: Concert Hall Foyer

1530-1730 **SYMPOSIA 4, 5, 6, AND 10**

- S.04 ACCOUNTING FOR MEASUREMENT ERROR AND MISCLASSIFICATION - DIFFERENT METHODS FOR DIFFERENT RESEARCH STUDY DESIGNS
Location: Concert Hall
Discussant: [Laurence Freedman](#)
Participants: [Pamela Shaw](#), [Anne Thiébaud](#), [Cécile Proust-Lima](#), [Laurence Freedman](#)
- S.05 HARMONIZED FOOD CONSUMPTION DATA COLLECTION IN EUROPE: TIME TO REFLECT AND PLAN AHEAD
Location: Classroom FG-042
Co-Chairs: [Sofia Ionnidou & Androniki Naska](#)
Discussant: [Marga Ocke](#)
Participants: [Sofia Ioannidou](#), [Carla Lopes](#), [Caroline Van Rossum](#), [Marga Ocke](#), [Androniki Naska](#)

- S.06 RECENT INNOVATIONS AND CHALLENGES IN WEB-BASED DIETARY ASSESSMENT TOOLS: CATALYSTS AND FUTURE DIRECT
Location: Classroom FB-028
 Chair: [Kirsten Herrick](#)
 Participants: [Janet Cade](#), [Eileen Gibney](#), [Mary L'Abbe](#), [Toni Steer](#), [Kirsten Herrick](#)
- S.10 CO-DESIGNING FIT FOR PURPOSE SOLUTIONS FOR MEASURING PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR
Location: C1060
 Chair: [Bronwyn Clark](#)
 Participants: [Bronwyn Clark](#), [Alan Donnelly](#), [Genevieve Healy](#)
- 1730-1830 EARLY CAREER RESEARCHER EVENT: ASK ME ANYTHING!
Location: C1060
 Pre-registration required
- 1730-1830 NUTRIENTS/FOOD COMPONENTS IN USA NATIONAL DIETARY SURVEILLANCE: STAKEHOLDER ENGAGEMENT
Location: C1061

WEDNESDAY, JUNE 28, 2023

- 0800-1730 Registration Open
Location: Concert Hall Lobby
- 0830-0930 Keynote: [Clare Collins](#), *University of Newcastle*
Challenges & Opportunities in Assessing Diet Across the Lifespan: Pot of Gold or Pandora's Box?
Location: Concert Hall
 Moderator: [Audrey Tierney](#)
- 0930-1000 Refreshment Break & Networking
Location: Concert Hall Lobby
- 1000-1200 **SYMPOSIA 7, 8, AND 9**
- S.07 DEVELOPMENT OF NEW MOBILE ECOLOGICAL MOMENTARY DIET ASSESSMENT TECHNOLOGY: METHODOLOGICAL AND IMPLEMENTATION CONSIDERATIONS
Location: Concert Hall
 Chair: [Susan M. Schembre](#)
 Participants: [Susan M. Schembre](#), [Christopher A. Taylor](#), [Rick Weiss](#), [Margaret Allman-Farinelli](#)
- S.08 MEASUREMENT ERROR IN DIET AND PHYSICAL ACTIVITY ASSESSMENT: INSIGHTS FROM VALIDATION STUDIES
Location: Classroom FG-042
 Chair: [Kevin Dodd](#)
 Participants: [Sharon Kirkpatrick](#), [Kevin Dodd](#), [Victor Kipnis](#)
- S.09 INTEGRATING DIET SCREENING INTO ROUTINE CLINICAL CARE AND COMMUNITY-BASED SETTINGS: THE TIME IS NOW
Location: Classroom FB-028
 Co-Chairs: [Maya Vadiveloo & Niyati Parekh](#)
 Participants: [Maya Vadiveloo](#), [Andrea Deierlein](#), [Niyati Parekh](#), [Mercedes Sotos Prieto](#)
- 1200-1345 Poster Session 2 with Lunch
Concert Hall Lobby

ORAL SESSIONS 4, 5, AND 6

04 DIETARY ASSESSMENT ACROSS THE LIFESPAN – 1

Location: Concert Hall

Session Chair: [Clare Collins](#)

- OS.04.01 VALIDATION OF MINIMUM DIETARY DIVERSITY FOR WOMEN (MDD-W) FOR ADOLESCENT GIRLS AND BOYS (10-19 YEARS): IDENTIFYING A FOOD GROUP CUT-OFF USING FAO/WHO GIFT
[Giles Hanley-Cook](#), *Food and Agriculture Organization of the United Nations (FAO)*
- OS.04.02 FOOD PROCESSING, AS CLASSIFIED BY NOVA, AND DIETARY PATTERNS OF US INFANTS AND TODDLERS
[Kirsten Herrick](#), *National Institutes of Health/National Cancer Institute*
- OS.04.03 EVALUATING SIMILARITIES BETWEEN MEASURES OF ULTRAPROCESSED AND HYPERPALATABLE FOOD INTAKE DURING PREGNANCY AND POSTPARTUM
[Leah Lipsky](#), *Eunice Kennedy Shriver National Institute of Child Health and Human Development*
- OS.04.04 INTAKES OF MAJOR FOOD GROUPS IN CHINA AND THE UK: RESULTS FROM 100,000 ADULTS PARTICIPATING IN THE CHINA KADOORIE BIOBANK AND THE UK BIOBANK
[Keren Papier](#), *University of Oxford*

05 CONTEXTUAL FACTORS, METHODS DEVELOPMENT AND STATISTICAL ASPECTS OF PHYSICAL ACTIVITY

Location: Classroom FG-042

Session Chair: [Alan Donnelly](#)

- OS.05.01 EVALUATION OF A PROTOCOL TO COLLECT ACCELEROMETER DATA IN OLDER CARE HOME (CH) RESIDENTS WITHIN THE CONTEXT OF THE REACH (RESEARCH EXPLORING PHYSICAL ACTIVITY IN CARE HOMES) FEASIBILITY CLUSTER RANDOMISED CONTROL TRIAL (CRCT)
[Jennifer Airlie](#), *Bradford Teaching Hospitals NHS Foundation Trust*
- OS.05.02 USING MMWAVE TECHNOLOGY TO DETECT POSTURE AND LOCATION OF WORKERS IN OFFICE SETTINGS
[Bronwyn Clark](#), *The University of Queensland*
- OS.05.03 INTER-BRAND AND INTER-DYNAMIC RANGE COMPARABILITY OF RAW ACCELEROMETER DATA AS USED IN PHYSICAL BEHAVIOUR RESEARCH
[Annelinde Lettink](#), *Amsterdam UMC*
- OS.05.04 A NATIONAL AUDIT INTO THE DIFFERENT LEVELS OF TYPICAL SCHOOL PROVISION OF PHYSICAL EDUCATION, PHYSICAL ACTIVITY AND SPORTS IN THE REPUBLIC OF IRELAND
[Padraic Rocliffe](#), *University of Limerick*

06 PATTERNS (MULTIDIMENSIONALITY AND DYNAMISM)

Location: Classroom FB-028

Session Chair: [Tracy McCaffrey](#)

- OS.06.01 PROFILES OF FOODS CONSUMED AT SNACKS VARY BY CONTEXTUAL FACTORS AND DIET QUALITY: ANALYSIS OF THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY 2017-2018
[Rebecca Leech](#), *Deakin University*
- OS.06.02 HEALTHY FOOD DIVERSITY AND THE RISK OF CARDIOVASCULAR DISEASES IN THE EPIC-POTSDAM STUDY
[Daniela Nickel](#), *German Institute of Human Nutrition Potsdam-Rehbruecke*
- OS.06.03 CLUSTERS OF CARBOHYDRATE-RICH FOOD INTAKE AND INCIDENCE OF TYPE 2 DIABETES IN A SWEDISH PROSPECTIVE COHORT
[Kjell Olsson](#), *Lund University*

OS.06.04 OPERATIONALIZING THE DIETARY APPROACHES TO STOP HYPERTENSION (DASH) DIET AMONG SOUTH ASIAN ADULTS IN THE MEDIATORS OF ATHEROSCLEROSIS IN SOUTH ASIANS LIVING IN AMERICA (MASALA) STUDY COHORT (2010-2013)
[Niyati Parekh](#), *New York University*

1445-1500 Refreshment Break & Networking
Concert Hall Lobby

1500-1600 Keynote: [Amos Laar](#), *University of Ghana*
Valorizing Food Environments Research And Increasing Demand For Healthy Food Policy In Africa: Lessons From Ghana
Location: Concert Hall
Moderator: [Sharon Kirkpatrick](#)

1600-1615 Transition Break

1615-1715 **ORAL SESSIONS 7, 8, AND 9**

07 METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH – 2

Location: Concert Hall

Session Chair: [Amos Laar](#)

OS.07.01 RELATIVE VALIDITY ACROSS AGE GROUPS OF THE DITEETIK! SMARTPHONE FOOD RECORD APP COMPARED TO 24-H DIETARY RECALL

[Ceceil Dinnissen](#), *National Institute for Public Health and the Environment (RIVM)*

OS.07.02 HOUSEHOLD EXPERIENCE WITH TWO WEARABLE CAMERAS FOR ASSESSMENT OF DIETARY INTAKE IN RURAL AND URBAN LOCATIONS IN GHANA, AFRICA

[Megan McCrory](#), *Boston University*

OS.07.03 UK NATIONAL DIET AND NUTRITION SURVEY ROLLING PROGRAMME (NDNS RP): IMPACT OF THE CHANGE IN DIET METHODOLOGY ON MONITORING TRENDS OVER TIME
[Caireen Roberts](#), *University of Cambridge*

OS.07.04 DEVELOPMENT OF QUALITY METRICS FOR MONITORING DIETARY ASSESSMENT

[Lynne Wilkens](#), *University of Hawaii*

08 TECHNOLOGICAL ADVANCES AND COMBINING METHODS IN PHYSICAL ACTIVITY TO ENHANCE MEASUREMENT”

Location: Classroom FG-042

Session Chair: [Catherine Norton](#)

OS.08.01 VALIDATION OF A DIGITAL INTERVIEWER-ADMINISTERED 24-H DIETARY RECALL METHOD IN LOW-MIDDLE INCOME SETTINGS: THE SOUTH ASIA BIOBANK

[Divya Bhagtani](#), *on behalf of NIHR Global Health Research Unit South Asia Biobank investigators and collaborators*

OS.08.02 FOOD PROCESSING: COMPARISON OF DIFFERENT FOOD CLASSIFICATION SYSTEMS

[Sara Rodrigues](#), *Porto University*

OS.08.03 USER EXPERIENCES OF THE AUTOMATED SELF-ADMINISTERED DIETARY ASSESSMENT TOOL, INTAKE24, AND AN IMAGE-ASSISTED MOBILE FOOD RECORD 24-HOUR RECALL RELATIVE TO OBSERVED INTAKE

[Janelle Healy](#), *Curtin University*

OS.08.04 COMBINATION OF DEVICE-BASED MOTION SENSORS FOR MONITORING DAILY HABITUAL PHYSICAL ACTIVITY IN MANUAL WHEELCHAIR USERS: A SYSTEMATIC REVIEW

[Kati Karinharju](#), *Satakunta University of Applied Sciences*

09 CONTEXTUAL FACTORS (E.G., ENVIRONMENTAL MODIFIERS)

Location: Classroom FB-028

Session Chair: [Benoît Lamarche](#)

- OS.09.01 DIETARY QUALITY INDEXES BASED ON SELF-REPORTED INTAKES AND BIOMARKER DATA IN RELATION TO METABOLIC SYNDROME AND GUT MICROBIAL DIVERSITY
[Ulrika Ericson](#), *Lund University*
- OS.09.02 A REVIEW OF BIOMEDICAL AND ANTHROPOMETRIC MEASURES USED IN NUTRITION SURVEYS IN FIVE COUNTRIES
[Berit Follong](#), *University of Auckland*
- OS.09.03 MEASURING DISCRETIONARY SALT: A TRADE OFF BETWEEN CONVENIENCE AND ACCURACY
[Rachael McLean](#), *University of Otago*
- OS.09.04 METABOLOMIC METHODS IN DIETARY PATTERN FEEDING STUDIES: A SCOPING REVIEW
[Jordan Stanford](#), *University of Newcastle*

- 1830 Bus Transportation to Strand Hotel
- 1900-2200 Reception, Dinner, and Entertainment
Strand Hotel
Pre-purchase of ticket required
- 2200 Bus Transportation to Accommodations

THURSDAY, JUNE 29, 2023

- 0800-1530 Registration Open
Location: Concert Hall Lobby
- 0830-0930 Keynote: [Ulf Ekelund](#), *Norwegian School of Sport Sciences*
Dose-response associations between physical activity and risk for mortality - lessons learned from self-reported and device-measured physical activity
Location: Concert Hall
Moderator: [Brian Carson](#)
- 0930-0945 Transition Break
- 0945-1045 **ORAL SESSIONS 10, 11, AND 12**
10 METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH – 3
Location: Concert Hall
Session Chair: [Kevin Dodd](#)
- OS.10.01 ASSOCIATION BETWEEN THE SCORE IN THE FOOD PRACTICES BRAZIL SCALE (FPBR) AND SHORT- AND LONG- TERM ACHIEVEMENT OF DIETARY INTAKE RECOMMENDATIONS
[Kamila Gabe](#), *University of São Paulo*
- OS.10.02 DEVELOPING AND EVALUATING A SCREENER TO ASSESS ALIGNMENT OF ADULTS' DIETARY INTAKE WITH THE 2019 CANADA'S FOOD GUIDE HEALTHY FOOD CHOICES RECOMMENDATIONS
[Joy Hutchinson](#), *University of Waterloo*
- OS.10.03 VALIDATION OF THE RAPID PRIME DIETARY SCREENER (RPDQS), A BRIEF DIETARY ASSESSMENT TOOL WITH SIMPLE TRAFFIC LIGHT SCORING"
[Selma Kronsteiner Gicevic](#), *Medical University of Vienna*

- OS.10.04 VALIDITY OF MEAL TIMING ASSESSED BY TRADITIONAL DIETARY ASSESSMENT METHODS IN COMPARISON WITH MEAL TIMING BASED ON IMAGE TIME STAMPS USING A WEARABLE CAMERA
Megan McCrory, Boston University

11 STATISTICAL ASPECTS AND ANALYSIS TOOLKIT

Location: Classroom FG-042

Session Chair: *Carolina Batis*

- OS.11.01 STANDARDIZED FOOD GROUPING TO ENHANCE HARMONIZATION OF DIETARY DATA AND REPORTING
Agnieszka Balcerzak, Food and Agriculture Organization of the United Nations
- OS.11.02 SALT AND SEASONING USAGE ASSESSED AS COVARIATES IN THE ESTIMATION OF USUAL IODINE INTAKE AND ITS PREVALENCE OF INADEQUACY
Sandra Crispim, Federal University of Paraná
- OS.11.03 ASSESSMENT OF IRON INADEQUACY PREVALENCE IN PREMENOPAUSAL WOMEN USING EFSAS DIETARY REFERENCE VALUE
Marjolein de Jong, Dutch National Institute for Public Health and the Environment
- OS.11.04 SOCIODEMOGRAPHIC FACTORS ASSOCIATED WITH THE NOVA BRAZILIAN DIET QUALITY INDEX (NOVA-BDQI)
Thays Souza, University of Sao Paulo

12 MACHINE LEARNING AND DATA SCIENCE APPROACHES IN PHYSICAL ACTIVITY AND DIETARY DATA

Location: Classroom FB-028

Session Chair: *Brian Carson*

- OS.12.01 ARTIFICIAL INTELLIGENCE-MEASURED PEDESTRIAN ENVIRONMENT FEATURES FROM GOOGLE STREET VIEW IMAGES AND INTERACTIONS WITH A 12-MONTH INTERVENTION TO INCREASE PHYSICAL ACTIVITY
Mark Adams, Arizona State University
- OS.12.02 UNPACKING UNCERTAINTY AND VARIABILITY: HOW STATISTICAL METHODS IMPACT HEALTH IMPACT ESTIMATES IN DIETARY RISK-BENEFIT ASSESSMENT
Daniela Correia, University of Porto
- OS.12.03 THE iDINE STUDY: IMPROVING DIGITAL IMAGING FOR NUTRIENT EVALUATION
Erin Hennesy, Tufts University
- OS.12.04 MONITORING OF DIETARY INTAKE AND PHYSICAL ACTIVITY WITH THE AUTOMATIC INGESTION MONITOR (AIM)
Edward Sazonov, University of Alabama

1045-1115 Refreshment Break & Networking
Location: Concert Hall Lobby

1115-1215 ORAL SESSIONS 13, 14, AND 15

13 METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH – 3

Location: Concert Hall

Session Chair: *Ulf Ekelund*

- OS.13.01 COMPARING INDICATORS FOR MONITORING AND EVALUATION OF HEALTHY DIETS: MDD-W VERSUS GDR SCORE AND GDQS
Giles Hanley-Cook, Food and Agriculture Organization of the United Nations (FAO)
- OS.13.02 CHARACTERISING THE REPORTING OF LEFTOVER PORTIONS IN INTAKE24: AN AUTOMATED ONLINE 24-HOUR RECALL
Anila Farooq, University of Cambridge

- OS.13.03 WHAT IS THE BEST FORMAT FOR COLLECTING DIETARY DATA FOR RISK ASSESSMENT: CONTINUOUS OR PERIODIC COLLECTION?
Sandrine Carrillo, French Agency for Food, Environmental and Occupational Health & Safety,
- OS.13.04 ASSESSING THE ENVIRONMENTAL IMPACT OF DIETS BASED ON INDIVIDUAL DIETARY DATA: NEW INFOGRAPHICS FOR THE FAO/WHO GIFT PLATFORM
Victoria Padula de Quadros, Food and Agriculture Organization of the United Nations (FAO)

14 DIETARY ASSESSMENT ACROSS THE LIFESPAN – 1

Location: Classroom FG-042

Session Chair: [Alexandra Cremona](#)

- OS.14.01 EVALUATION OF SMARTAPPETITE, A SMARTPHONE APP FOR IMPROVING ADOLESCENT FOOD LITERACY AND HEALTHY EATING: A QUALITATIVE ANALYSIS
Louise McEachern, University of Western Ontario
- OS.14.02 RELATIVE VALIDITY OF NUTRIENT INTAKE OF THE DITEETIK! FOOD RECORD APP ACROSS EDUCATIONAL LEVELS
Eline Nawijn, National Institute for Public Health and the Environment (RIVM)
- OS.14.03 DEVELOPMENT OF A WEB-BASED FOOD FREQUENCY QUESTIONNAIRE (FFQ) - EXPERIENCES FROM DEVELOPING A MULTI-LANGUAGE FFQ ADJUSTED FOR THE CULTURALLY DIVERSE SWISS POPULATION
Sarah Pannen, University of Zurich
- OS.14.04 DEFINING THE OPTIMAL MDD-W THRESHOLD TO IDENTIFY PREGNANT WOMEN WITH INADEQUATE MICRONUTRIENT INTAKE IN LOW-AND MIDDLE-INCOME COUNTRIES
Eric Verger, IRD

15 FOOD SECURITY, COMBINING ENVIRONMENTAL INDICATORS AND HIERARCHAL FOOD STRUCTURES

Location: Classroom FB-028

Session Chair: [Sharon Kirkpatrick](#)

- OS.15.01 ADDING ENVIRONMENTAL INDICATORS TO A DATASET OF HOUSEHOLD PURCHASES OF FOOD AND BEVERAGES IN NEW ZEALAND
Kathryn Bradbury, University of Auckland
- OS.15.02 ADDED BENEFITS OF SCREENING FOR NUTRITION SECURITY ALONGSIDE FOOD SECURITY SCREENING
Eric Calloway, Gretchen Swanson Center for Nutrition
- OS.15.03 NEW MEASURES TO ASSESS THE “OTHER” THREE PILLARS OF FOOD SECURITY: AVAILABILITY, UTILIZATION, AND STABILITY
Eric Calloway, Gretchen Swanson Center for Nutrition
- OS.15.04 LEVERAGING HIERARCHICAL FOOD STRUCTURE TO IMPROVE HEALTH RESPONSE MODELS: NHANES 2007-2018
James Pleuss, Stevens Institute of Technology

1215-1400 Poster Session 3 with Lunch
Location: Concert Hall Lobby

1400-1500 Navigating Opportunities and Pitfalls: Building a Career in Diet and Physical Activity Assessment
Location: Concert Hall
[Genevieve Healy](#), *University of Queensland*
[Clare Collins](#), *University of Newcastle*
[Dr Marissa Shams-White](#), *National Cancer Institute*
 Moderators: [Audrey Tierney](#) and [Alan Donnelly](#)

1500-1515 **Closing Ceremony & ICDAM 2025**
Location: Concert Hall

WORKSHOPS

The following workshops have been selected to encourage the discussion of current high-quality and novel research in this field.

All workshops will take place on Monday, June 26th, on the University of Limerick Campus in the Main Building (near the Concert Hall/Foundation Building)

- *Registration for workshop participants will open at 0830*
- *Lunch will be provided for those registered in a full day workshop and for those registered in a morning AND afternoon workshop. Lunch will take place 1300-1400 and a lunch ticket will be required.*
- *Refreshment breaks will be provided for all workshop participants at the following times: 1100-1130 and 1530-1600.*

9:30-17:30 | Location: Classroom C1060

W.01 FOOD DATABASES TO SUPPORT NATIONAL DIETARY SURVEYS: EXPERIENCES, CHALLENGES, AND PERSPECTIVES

Alanna Moshfegh¹, Suzanne Morton¹, Anja Biloft-Jensen², Tue Christensen², Hidemi Takimoto³, Birdem Amoutzopoulos⁴, Carolin Krems⁵, Caroline Van rossum⁶, Marga Ocké⁶

¹US Department of Agriculture, ²Technical University of Denmark, ³National Institutes of Biomedical Innovation, Health and Nutrition, ⁴University of Cambridge, ⁵Max Rubner-Institut, ⁶National Institute for Public Health and the Environment Bilthoven, the Netherlands

National dietary surveys provide population-based data critical for policies, programs, and evaluations. Food databases used in surveys are key to assuring that data collected accurately portray food consumption and nutrient intakes. Development, technology advancements, and content of food databases from the United States, Denmark, Japan, Brazil, United Kingdom, and Germany will be presented.

9:30-13:00 | Location: Classroom C1059

W.03 ADDRESSING MEASUREMENT ERROR IN DIET AND PHYSICAL ACTIVITY ASSESSMENT

Janet Tooze¹, Kevin Dodd²

¹Wake Forest School of Medicine, ²National Cancer Institute

This workshop is designed for public health professionals and epidemiologists who focus on diet and/or physical activity. It will address sources of measurement error, aspects of study design that permit the use of statistical methods to correct for measurement error, and provide an overview of these methods for both surveillance and epidemiologic studies. The emphasis will be on the need for and the concepts behind statistical methods rather than specific details of implementation.

9:30-13:00 | Location: Classroom C1062

W.04 CARBON FOOTPRINT SCORING FOR FOOD AND FOOD INDUSTRY

Alan Scarry¹, Laura Kirwan², Karen O'Brien²

¹University of Limerick, ²Nutritics

University Limerick and Nutritics are holding this session as a part of the GoGreenroutes program. Foodprint developed by Nutritics is a brand-new, cutting-edge software which generates a live carbon score for our food highlighted by colourful displays. This workshop will use live demonstrations to show the advantages of using carbon scoring software.

14:00-17:30 | Location: Classroom C1062

W.05 ASSESSMENT OF NUTRITION SECURITY: A WORKSHOP FOR SELECTION, DEVELOPMENT, TAILORING, IMPLEMENTATION, ANALYSIS, AND TRANSLATION OF MIXED METHODS AND MEASURES

Amy Yaroch¹, Carmen Shanks¹, Eric Calloway¹, Ken Resnicow³

¹Gretchen Swanson Center for Nutrition, ³University of Michigan

Nutrition security is an important emerging topic, yet measures are scarce. Workshop participants will review knowledge on nutrition security using mixed methods to interactively learn how to select, develop, tailor, implement, analyze, and translate nutrition security research. Challenges and solutions for methods and measures surrounding nutrition security will be explored.

14:00-17:30 | Location: Classroom C1059

W.06 INTAKE24: PERSPECTIVES FROM MEASURING DIET AROUND THE WORLD

Tracy McCaffrey¹, Emma Foster¹, Toni Steer², Polly Page², Renee Sobolewski³, Cliona Ni Mhurchu⁴

¹Monash University, ²University of Cambridge, ³Food Standards Australia New Zealand, ⁴The University of Auckland

Intake24 is an open-source self-completed online dietary recall system based on multiple-pass 24-hour recall. We will describe the toolkit for creating localised versions drawing on examples from Australia and Malaysia, and its adaptation for use in national nutrition surveys involving diverse populations in the UK, Australia, and New Zealand.



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Symposium 1

FOOD CONSUMPTION AWAY FROM HOME: CHALLENGES AND METHODS DEVELOPMENT TO IMPROVE ITS MEASUREMENT

Tuesday 27 June | 10:15-12:15

Location: Concert Hall

Chair: Edwige Landais

Away-from-home food consumption, usually associated with poorer quality diet and consequently with health impairment, represents an important part of people's diet worldwide. This particular behaviour is quite challenging to assess and thus, this symposium will discuss some of the associated challenges and will present initiatives to better consider and measure away-from-home food consumption.

Adeeba Ishaq¹, Eric Verger², Mike Sharp³, Sandra Crispim⁴, Edwige Landais²

¹Food and Agriculture Organization (FAO), ²French National Institute of Research for sustainable Development (IRD), ³Pacific Community, ⁴Federal University of Paraná

S01.01 FOOD CONSUMED AWAY FROM HOME IN HOUSEHOLD CONSUMPTION AND EXPENDITURE SURVEYS: DATA COLLECTION, AND DATA PROCESSING CHALLENGES

Adeeba Ishaq¹

¹Food and Agriculture Organization of the United Nations

Food consumption data collected in household surveys are being used for producing consumption statistics. Worldwide different survey designs exist to collect data on food consumed away from home (FCAH), which poses challenges in data processing. Improving FCAH survey designs based on existing data collection guidelines is of utmost importance for producing reliable consumption estimates.

S01.02 STUDY PROTOCOL: SURVEY EXPERIMENT TO IMPROVE DATA COLLECTION AND ESTIMATION OF FOOD CONSUMPTION AWAY FROM HOME IN SAMOA

Michael Sharp¹, Nathalie Troubat¹, Lilianetelani Hennemann², Toga Raikoti¹, Andrea Borlizzi¹, Sandra Crispim³, Solene Bertrand¹, Maiwenn Moreau¹, Bertrand Buffiere¹

¹Pacific Community (SPC), ²Samoa Bureau of Statistics, ³Universidade Federal do Paraná

Food consumed 'away from home' (FAFH) is an important component of modern diets. We propose an experiment to assess the cost of one-calorie method against a benchmark to estimate the nutrient composition of FAFH. The experiment is incorporated into a nationally representative household survey in which FAFH consumption data are collected using visual aids and a highly monitored individual diary.

S01.03 ENHANCING THE COLLECTION OF INFORMATION ON FOOD CONSUMED AWAY FROM HOME BY DEVELOPING SPECIFIC MODULES FOR HOUSEHOLD LEVEL SURVEYS: EXPERIMENTAL EVIDENCE FROM VIETNAM AND BURKINA FASO

Eric Verger¹, Edwige Landais¹, Jérôme Somé², Mai Truong³, Nga Hoang³, Yen Thao³, Chris Béné⁴, Raphaël Pelloquin¹, Elodie Maître d'Hôtel¹

¹IRD, ²Institut de Recherche en Sciences de la Santé, ³National Institute of Nutrition, ⁴International Center for Tropical Agriculture

The purpose of this study was to develop, field-test and validate individual-level survey modules in comparison with data from three non-consecutive 24-hour dietary recalls in different settings (urban, peri-urban and rural) in Burkina Faso (n=1398) and Vietnam (n=917) to adequately describe the economic and nutritional importance of food consumed away from home.

S01.04 IMPROVING DATA COLLECTION AND DATABASES IN INDIVIDUAL FOOD CONSUMPTION SURVEYS TO ESTIMATE FOODS CONSUMED AWAY FROM HOME: CASE STUDIES IN BRAZIL AND IN THE CARIBBEAN

Sandra Crispim¹, Ana Fonseca², Débora Silva¹

¹Federal University of Paraná, ²University of Campinas

This presentation seeks to foster the improvement of data collected in individual food consumption surveys to estimate foods eaten away from home. To ensure the good quality and comparability of data, the use of specific away-from-home food descriptions should be considered consistently, along with the consideration that respondents will not always be able to provide some food consumption details.

Symposium 2

ASSESSING ADHERENCE TO THE 2018 WORLD CANCER RESEARCH FUND (WCRF)/ AMERICAN INSTITUTE FOR CANCER RESEARCH

Tuesday 27 June | 10:15-12:15

Location: Classroom FG-042

Co-Chairs: Marissa Shams-White & Giota Mitrou

This symposium will describe the development of the 2018 WCRF/AICR Score to assess adherence to WCRF/AICR Cancer Prevention Recommendations. Operationalization of the Score in UK and US cohort studies and its association with cancer risk will be presented, as well as methodological adaptations. The development and validation of a new screener for use in clinical settings will also be introduced.

Marissa Shams-White¹, Fiona Malcomson², Alice Chaplin³, Giota Mitrou⁴

¹National Cancer Institute, National Institutes of Health, ²Newcastle University, ³Balearic Islands Health Research Institute, CIBEROBN,

⁴World Cancer Research Fund International

SO2.01 THE WORLD CANCER RESEARCH FUND (WCRF)/AMERICAN INSTITUTE FOR CANCER RESEARCH (AICR) CANCER PREVENTION RECOMMENDATIONS AND THE DEVELOPMENT OF THE 2018 WCRF/AICR SCORE

Marissa Shams-White¹, Nigel Brockton², Panagiota Mitrou³, Dora Romaguera⁴, Lisa Kahle⁵, Jill Reedy¹

¹National Cancer Institute, National Institutes of Health, ²American Institute for Cancer Research,

³World Cancer Research Fund International, ⁴Balearic Islands Health Research Institute (IdISBa), University Hospital Son Espases, ⁵Information Management Services, Inc.

In 2018, the WCRF/AICR published ten evidence-based, lifestyle Cancer Prevention Recommendations to reduce risk for cancer and related health outcomes. This presentation will give an overview of the Recommendations; describe the development of a standardized scoring system to assess adherence, the 2018 WCRF/AICR Score; and provide guidance for its application in research at the population level.

SO2.02 OPERATIONALISATION OF THE 2018 WCRF/AICR SCORE IN THE UK BIOBANK PROSPECTIVE COHORT STUDY AND CHARACTERISTICS OF PARTICIPANTS ACCORDING TO SCORE

Fiona C Malcomson¹, Solange Parra-Soto², Liya Lu¹, Frederick Ho², Aurora Perez-Cornago³, Marissa Shams-White⁴, Jill Reedy⁴, Moniek van Zutphen^{5,6}, Ellen Kampman⁵, Renate Winkels⁵, Giota Mitrou⁷, Martin Wiseman⁷, Dora Romaguera⁸, Carlos Celis-Morales^{2,9}, Linda Sharp¹, John C Mathers¹

¹Newcastle University, ²University of Glasgow, ³University of Oxford, ⁴National Cancer Institute,

⁵Wageningen University & Research, ⁶Radboud University Medical Center, ⁷World Cancer Research Fund International,

⁸Instituto de Salud Global de Barcelona (ISGlobal), ⁹University Católica del Maule

This presentation will describe the operationalisation of the 2018 WCRF/AICR Score in the UK Biobank prospective cohort study, which recruited >500,000 individuals aged 37-73 years between 2006 and 2010, including methodological considerations and challenges encountered, and the creation of an 'abbreviated score'. Patterns of adherence scores across socio-demographic subgroups will be presented.

SO2.03 APPLICATION AND METHODOLOGICAL EXAMINATION OF THE 2018 WCRF/AICR SCORE AND CANCER RISK AND MORTALITY IN THE NIH-AARP DIET AND HEALTH STUDY

Marissa Shams-White¹, Elizabeth Thompson², Nigel Brockton³, Panagiota Mitrou⁴, Ariella Korn⁵, Lisa Kahle⁶, Raymond Carroll², Jill Reedy¹

¹National Cancer Institute, National Institutes of Health, ²Texas A&M University, ³American Institute for Cancer Research,

⁴World Cancer Research Fund International, ⁵RAND Corporation, ⁶Information Management Services, Inc.

This talk will present findings on the associations between the 2018 WCRF/AICR Score and cancer risk and mortality in the U.S. NIH-AARP Diet and Health Study. Methodological changes to the Score will also be explored, including the impact of incorporating weightings for each Score component, using a continuous point scale in place of fully discrete cut-points, and revising cut-point values.

NUTRI S-CAN: A NOVEL SHORT SCREENER TO EVALUATE ADHERENCE TO THE 2018 WCRF/AICR CANCER PREVENTION RECOMMENDATIONS

Alice Chaplin¹, Marissa Shams-White², Jill Reedy², Panagiota Mitrou³, Nigel Brockton⁴, Adela Castelló⁵, Mar Nafría⁶, Elena Rayó⁶, Marga Morey⁶, Lara Prohens⁶, Albert Sesé⁷, Dora Romaguera¹

¹IdISBa; CIBEROBN, ²National Cancer Institute, ³World Cancer Research Fund International,

⁴American Institute for Cancer Research, ⁵Instituto de Salud Carlos III, ⁶IdISBa, ⁷University of the Balearic Islands

This presentation will discuss the development and validation of Nutri S-Can, a short screener which evaluates the degree of adherence to the 2018 WCRF/AICR Cancer Prevention Recommendations. The aim is for it to become a standardized, feasible and rapid tool to be used in clinical settings at an individual level. The methodology employed and results obtained so far will be discussed.

Symposium 3

INTEGRATING TIMING OF DIET, PHYSICAL ACTIVITY, AND SLEEP OVER TIME TO DETERMINE LINKS TO HEALTH

Tuesday 27 June | 10:15-12:15

Location: Classroom FB-028

Chair: Heather Eicher-Miller

Discussant: Sarah McNaughton

All daily activities take place in a sequence of time, forming a daily lifestyle pattern. Yet, consideration of time in patterns of dietary and movement behaviours (physical activity, sleeping) is new with little joint examination of time-based or chrono patterns. This symposium will explore novel approaches to dietary and movement behavior patterning in relation to health.

Heather Eicher-Miller¹, Rebecca Leech², Sarah McNaughton²

¹Purdue University, ²Deakin University

S03.01 **COMPARING TEMPORAL DIETARY, PHYSICAL ACTIVITY, AND JOINT DIETARY AND PHYSICAL ACTIVITY PATTERN CLUSTER RELATIONSHIPS WITH HEALTH**

Heather Eicher-Miller¹, Luotao Lin¹, Jiaqi Guo¹, Anindya Bhadra¹, Saul Gelfand¹, Edward Delp¹, Elizabeth Richards¹, Erin Hennessy²

¹Purdue University, ²Tufts University

Daily temporal patterns of energy intake and physical activity counts have been independently and jointly linked with health indicators but the strength of those associations have not been compared. This talk will feature methods to temporally patterning both behaviors together and determine if their joint patterning has stronger relationships with health compared with each behavior pattern alone.

S03.02 **EXPLORING THE RELATIONSHIP BETWEEN WEEKDAY AND WEEKEND DAY TEMPORAL DIETARY PATTERNING**

Heather Eicher-Miller¹, Luotao Lin¹, Jiaqi Guo¹, Saul Gelfand¹, Anindya Bhadra¹, Edward Delp¹, Elizabeth Richards¹, Erin Hennessy²

¹Purdue University, ²Tufts University

Energy and dietary quality are known to differ between weekdays and weekend days. Weekday temporal dietary patterns are linked with health indicators but weekday pattern links are unknown. This talk will explore the link between temporal dietary patterns of both a weekday and a weekend day and health indicators (body mass index, waist circumference, and obesity) and their overlap of membership.

S03.03 **METHODS FOR UNDERSTANDING OF THE TEMPORAL PATTERNING OF DIET AND MOVEMENT BEHAVIOURS: A SCOPING REVIEW**

Rebecca Leech¹, Stephanie Chappel², Nicola Ridgers³, Ralph Madison¹, Heather Eicher-Miller⁴, Carol Boushey¹, Sarah McNaughton¹

¹Deakin University, ²CQUniversity, ³Appleton Institute, ⁴University of South Australia, ⁴Purdue University

This scoping review identifies novel analytic methods for determining temporal patterns of diet and movement behaviours (physical activity, sedentary behaviours, sleep) and the contexts in which they occur. The identified methods, temporal patterns, and their contextual correlates and their associations with health outcomes were examined across the 14 included studies.

Symposium 4

ACCOUNTING FOR MEASUREMENT ERROR AND MISCLASSIFICATION - DIFFERENT METHODS FOR DIFFERENT RESEARCH STUDY DESIGNS

Tuesday 27 June | 15:30-17:30

Location: Concert Hall

Discussant: Laurence Freedman

Self-reported dietary intakes, physical activity and related measures are subject to considerable error, which challenges the reliable interpretation of results over a wide range of study designs. We focus on methods of adjusting for such error in three designs: cohort studies with (i) a baseline or (ii) time-varying exposure or (iii) studies linking 'latent' exposure groups to a health outcome.

Pamela Shaw¹, Anne Thiébaud², Cécile Proust-Lima³, Laurence Freedman⁴

¹Kaiser Permanente Washington Health Research Institute, ²Research Center for Epidemiology and Population Health, INSERM,

³Bordeaux Population Health Research Center, INSERM, ⁴Gertner Institute for Epidemiology

S04.01 BEST PRACTICE RECOMMENDATIONS FOR APPLYING REGRESSION CALIBRATION

Pamela Shaw^{1,2}, Lillian Boe², Douglas Midthune³, Paul Gustafson⁴, Victor Kipnis³, Eunyoung Park⁵, Daniela Sotres-Alvarez⁶, Laurence Freedman⁷

¹Kaiser Permanente Washington Health Research Institute, ²Memorial Sloan Kettering Cancer Center, ³National Cancer Institute, ⁴University of British Columbia, ⁵University of Pennsylvania, ⁶University of North Carolina, Chapel Hill, ⁷Sheba Medical Center

Regression calibration is a popular approach for addressing bias introduced in regression analysis by an error-prone exposure. Regression calibration has the potential to greatly reduce bias when used properly, however, several pitfalls can occur in practice. We discuss practical issues and recommendations to consider when applying this method. Issues are illustrated with real data examples.

S04.02 CORRECTLY ACCOUNTING FOR MISCLASSIFICATION WHEN LINKING LATENT EXPOSURE GROUPS WITH HEALTH OUTCOMES

Cécile Proust-Lima¹, Maris Dussartre¹, Viviane Philipps¹, Cécilia Samieri¹, Paul Gustafson¹, Pamela Shaw¹

¹Inserm, University of Bordeaux

Latent groups are valuable tools to summarize complex multidimensional exposures and assess their association with external information. When doing so, the inherent error of classification is often ignored. We introduce analytical solutions to account for it and illustrate them in simulations and applications evaluating the association between lifestyle profiles and cognitive aging in the elderly.

S04.03 BIAS RESULTING FROM THE INTERMITTENT MEASUREMENT OF AN ERROR-PRONE EXPOSURE IN SURVIVAL ANALYSIS

Anne Thiebaut¹, Viviane Philipps¹, Veronika Deffner², Hendrieke Boshuizen³, Laurence Freedman⁴, Cécile Proust-Lima¹

¹Inserm, ²Ludwig-Maximilians-Universität, ³Netherlands Institute for Public Health and the Environment, ⁴Gertner Institute for Epidemiology and Health Policy Research

When assessing the association between a time-varying exposure and the later occurrence of a disease, epidemiologic studies often rely on repeated rather than continuous exposure measurements. We compare possible approaches for handling such intermittently measured exposure in a Cox regression and the resulting biases using simulations. We illustrate these methods with a real data example.

S04.04 DISCUSSION OF THREE PAPERS ON MEASUREMENT ERROR AND MISCLASSIFICATION

Laurence Freedman¹

¹Gertner Institute for Epidemiology

I will discuss the three papers presented in this symposium. All represent work performed as part of the STRATOS (Strengthening Analytical Thinking for Observational Studies) initiative, an international collaboration of biostatisticians aimed at reducing existing gaps between available statistical methodology and practice. This is particularly needed when analyzing data that are prone to error.

Symposium 5

HARMONIZED FOOD CONSUMPTION DATA COLLECTION IN EUROPE: TIME TO REFLECT AND PLAN AHEAD

Tuesday 27 June | 15:30-17:30

Location: Classroom FG-042

Co-Chairs: Sofia Ionnidou & Androniki Naska

Discussant: Marga Ocké

Reliable and harmonized food consumption data in Europe are important for EFSA. In 2014, a guidance on harmonization of national dietary surveys was published. This symposium aims to present lessons learnt from the EU Menu framework project and data, share the findings of a review on new methods, and discuss options for an update of the guidance for harmonized food consumption surveys in Europe.

Sofia Ioannidou¹, Carla Lopes², Caroline Van Rossum³, Marga Ocké³, Androniki Naska⁴

¹European Food Safety Authority (EFSA), ²University of Porto, ³National Institute for Public Health and the Environment (RIVM),

⁴National and Kapodistrian University of Athens

S05.01 METHODS AND TOOLS USED IN EU MENU FOOD CONSUMPTION SURVEYS: QUALITY AND LEVEL OF HARMONIZATION OF THE DATA COLLECTED IN THE EU MENU FRAMEWORK

Carla Lopes¹, Catarina Carvalho², Milton Severo³, Daniela Correia¹, Andreia Oliveira³, Caroline Van Rossum⁴, Marga Ocké⁴, Duarte Torres²

¹Faculty of Medicine/Institute of Public Health, University of Porto, ²Faculty of Food and Nutrition Sciences/Institute of Public Health, University of Porto, ³Institute of Public Health, University of Porto, ⁴National Institute for Public Health and The Environment (RIVM)

The EFSA-funded ERA EU-Menu project aims to map the existing EU Menu surveys and evaluate quality indicators from several dimensions, including: sampling & recruitment; training of interviewers; dietary and non-dietary data collection procedures. Preliminary results of 96 quality indicators show high compliance with EFSA guidance methodology but some indicators denote topics for improvement.

S05.02 EVALUATION OF SELF ADMINISTERED TOOLS AND METHODS THAT CAN POTENTIALLY BE USED IN NATIONAL FOOD CONSUMPTION SURVEYS' FINDINGS FROM AN UMBRELLA REVIEW

Caroline Van Rossum¹, Sovianne ter Borg¹, Andreia Oliveria², Catarina Carvalho², Marga Ocké¹

¹RIVM (Dutch National Institute for Public Health and the Environment), ²University of Porto

An umbrella review was conducted on the evaluation of new/existing methods and tools that can potentially be used in national dietary surveys. Online 24-h recalls and smart-phone food records have potential for use in Europe. However, the collection of supplementary information (internet access, e-skills, available data, best practices and lessons from front-runners) is needed.

S05.03 WHAT'S ON THE MENU IN EUROPE? HARMONIZED FOOD CONSUMPTION DATA IN EUROPE: ACHIEVEMENTS AND LESSONS LEARNT

Sofia Ioannidou¹, Androniki Naska², Elissavet Valanou², Anastasia Livaniou¹

¹European Food Safety Authority, ²National Kapodistrian University of Athens

Under the "What's on the Menu in Europe? - EU Menu" project EFSA supports national dietary surveys in the EU to collect harmonised consumption data. Running however such surveys is a complex and challenging task. The variability in protocols, response rates and data quality challenge the evidence collected. Therefore, future data collection may benefit from technological advancements.

Symposium 6

RECENT INNOVATIONS AND CHALLENGES IN WEB-BASED DIETARY ASSESSMENT TOOLS: CATALYSTS AND FUTURE DIRECT

Tuesday 27 June | 15:30-17:30

Location: Classroom FB-028

Discussant: Kirsten Herrick

This symposium will spotlight recent enhancements from myfood24, Foodbook24, FoodFlip, Intake24, and ASA24. Each speaker will describe a recent innovation to their tool and describe motivations and considerations during its development. A panel discussion will follow with interactive audience polls using Mentimeter to solicit feedback and shape future innovations in dietary assessment.

Janet Cade¹, Eileen Gibney², Mary L'Abbe³, Toni Steer⁴, Kirsten Herrick⁵

¹University of Leeds, ²University College Dublin, ³University of Toronto, ⁴University of Cambridge, ⁵National Institutes of Health/National Cancer Institute

S06.01 MAKING FOOD INTAKE DATA FAIR: FOODBOOK24 AND FNS-CLOUD

Eileen Gibney¹

¹UCD

Unique challenges exist for the exploitation of nutrition data. Available data varies in terms of the methods of data collection, the type of data collected, and timeframe of collection. Available data needs to be FAIR (findable, accessible, interoperable and reusable) to ensure continued use. Online intake assessment tools such as foodbook24 and others offer a step change in addressing such issues.

S06.02 Dietary Assessment in a Changing Policy World

Mary R. L'Abbe¹, Guanlan Hu¹, Mavra Ahmed¹, Jennifer Lee¹, Emily Ziraldo¹

¹University of Toronto

Mandatory Front of Pack Labelling (FOPL) will come in force in Canada January 2026. FLIP, the Food Label Information and Price database contains nutrition information of brand name foods sold in Canada and the FoodFLIP© app allows users to enter products by brand name or scanning the barcode. National dietary surveys capturing brand name foods are needed to evaluate FOPL and other food policies.

S06.03 INTAKE24: CREATING A CUSTOMIZABLE INTERFACE FOR RESEARCHER INNOVATION

Toni Steer¹, Polly Page¹

¹MRC Epidemiology Unit, University of Cambridge

Digital tools offer considerable potential but can be complex to adapt. Intake24 Version 4 provides simplified software to facilitate researcher innovation and scope to self-customise. This allows easier customisation of recalls, e.g. to capture specific eating occasions, include bespoke questions about eating behaviours or out-of-home consumption, or adapt for a specific study population.

S06.04 MYFOOD24, NUTRITION MANAGEMENT SOFTWARE FROM RESEARCH TO PERSONALISATION

Janet Cade¹

¹University Of Leeds

myfood24 supports food and nutrient intake measurement. New healthcare apps provide personalized nutrition management. The system includes barcode scanning and a comprehensive food composition database. myfood24 Diet Optimization Engine?, suggests dietary changes to meet nutrition targets and optimize environmental sustainability. Pilot tests have been conducted before broader implementation.

S06.05 BREAKING DOWN SILOS: EXPANDING ASA24 TO STUDY THE RELATIONSHIP BETWEEN EATING AND SLEEPING

Kirsten Herrick¹, Marissa Shams-White¹, Lauren O'Connor¹, Sydney O'Connor¹

¹National Institutes of Health/National Cancer Institute

Tools exist to measure diet, physical activity, and sleep individually, but measurement of all three over a 24-hour period remains elusive. To address this gap, the National Cancer Institute developed a Sleep module to accompany the Automated Self-Administered 24-hour (ASA24) Dietary Assessment Tool. We will share the content and considerations relevant to the development of ASA24 Sleep module.

Symposium 7

DEVELOPMENT OF NEW MOBILE ECOLOGICAL MOMENTARY DIET ASSESSMENT TECHNOLOGY: METHODOLOGICAL AND IMPLEMENTATION CONSIDERATIONS

Wednesday 28 June | 10:00-12:00

Location: Concert Hall

Chair: Susan M. Schembre

We are developing a new mobile ecological momentary dietary assessment (mEMDA) app that modernizes how we collect dietary surveillance data. Unlike traditional methods, mEMDA is a brief survey that assesses dietary intake in near real time from free-living individuals. Presentations in this symposium will discuss considerations for developing and using this next generation dietary assessment tool.

Susan M. Schembre¹, Christopher A. Taylor², Rick Weiss³, Margaret Allman-Farinelli⁴

¹Georgetown's Lombardi Comprehensive Cancer Center, ²Ohio State University, ³Viocare, Inc., ⁴The Sydney University

S07.01 DEVELOPING AND REFINING THE mEMDA FOOD SURVEY

Christopher Taylor¹, Rick Weiss², Cynthia Thomson³, Genevieve Dunton⁴, Edward Bedrick³, Michelle Jospe⁵, Kelli Richardson³, Susan Schembre⁵

¹Ohio State University, ²Viocare, Inc., ³University of Arizona, ⁴University of Southern California, ⁵Georgetown University

National surveillance data were used to identify foods that contributed >90% of total saturated fat and added sugars intakes across sex, age, and race/ethnicity subgroups of U.S. adults. This derived 94 food categories to be included; presenting a challenge to our burden reduction goal. The list was refined by partitioning foods into common or similar sources in the style of an FFQ.

S07.02 ENGAGEMENT AND COMPLIANCE CONSIDERATIONS IN THE DESIGN OF mEMDA

Susan Schembre¹, Christopher Taylor², Rick Weiss³, Cynthia Thomson⁴, Genevieve Dunton⁵, Edward Bedrick⁴, Michelle Jospe¹, Kelli Richardson¹

¹Georgetown's Lombardi Comprehensive Cancer Center, ²The Ohio State University, ³Viocare, Inc., ⁴University of Arizona, ⁵University of Southern California

mEMDA is a brief EMA-based dietary survey that will be completed 4-6 times/day. With an objective to limit the total interaction with mEMDA to <15 minutes/day, we are striving to achieve a per use effort of <3 minutes without compromising data quality. This presentation will discuss potential barriers to compliance and how we are preemptively addressing these issues during the development.

S07.03 DESIGN CONSIDERATIONS FOR THE MEMDA APP USER INTERFACE

Rick Weiss¹, Christopher Taylor², Cynthia Thomson³, Genevieve Dunton⁴, Edward Bedrick³, Michelle Jospe⁵, Kelli Richardson³, Susan Schembre⁵

¹Viocare, Inc., ²Ohio State University, ³University of Arizona, ⁴University of Southern California, ⁵Georgetown University

Our mEMDA app consists of: 1) a mobile app, 2) an administration system, and 3) a nutrient database. The critical features are finding foods/beverages consumed and reporting the amount consumed. mEMDA is a survey with a predetermined list of foods and beverages from which users select items recently consumed. Users report portion size estimations, adjustments, and add-ons in a simple workflow.

S07.04 CONTEXT MATTERS IN DIETARY ASSESSMENT: INSIGHTS FROM EMA

Margaret Allman-Farinelli¹, Brigitte Battaglia¹, Lydia Lee¹, Stephanie Partridge¹, Sisi Jia¹

¹The University of Sydney

Nutritionists typically use static measures to assess food intakes and aggregate nutrient intakes or categorize diet patterns over periods such as a day (24-h recall) or months (food frequency questionnaire). This approach loses information integral to understanding the how, why, where, and what of consumption ignoring food intake is a dynamic process. EMA allows measurement of intake in context.

Symposium 8

MEASUREMENT ERROR IN DIET AND PHYSICAL ACTIVITY ASSESSMENT: INSIGHTS FROM VALIDATION STUDIES

Wednesday 28 June | 10:00-12:00

Location: Classroom FG-042

Chair: Kevin Dodd

Self-reported dietary assessments measure usual dietary intake with considerable error. Both self-reported and accelerometry-based activity data are likely plagued by similar issues. Measurement error can distort observed associations and mask the effects of interventions. Validation studies help us understand the structure of measurement error, informing strategies to mitigate its effects.

Sharon Kirkpatrick¹, Kevin Dodd², Victor Kipnis²

¹University of Waterloo, ²National Cancer Institute

S08.01 MEASUREMENT ERROR AFFECTING WEB- AND PAPER-BASED DIETARY ASSESSMENT INSTRUMENTS

Sharon Kirkpatrick¹

¹University of Waterloo

The measurement error structures of online and paper-based FFQs, online 24HRs, and paper-based FRs in relation to energy, protein, sodium, and potassium (and associated densities) were investigated in biomarker-based validation studies drawn primarily from three established cohorts. Findings suggest different instruments have unique strengths that should be leveraged in epidemiologic research.

S08.02 A DEEPER DIVE INTO THE MEASUREMENT ERROR STRUCTURE OF SELF-REPORT DIETARY ASSESSMENT INSTRUMENTS

Kevin Dodd¹

¹National Cancer Institute

By providing a comprehensive summary of relative contributions from distinct error sources to attenuation factors and validity coefficients, as well as information about shared biases among instruments, the joint measurement error structure (estimated in a validation study) of multiple assessment instruments enhances understanding of the effects of measurement error on research findings.

S08.03 ERROR IN ACCELEROMETRY MEASUREMENTS AND ITS IMPLICATIONS FOR EVALUATING INTERVENTION EFFECTS IN A LONGITUDINAL RANDOMIZED TRIAL

Victor Kipnis¹, Midthune Douglas¹

¹National Cancer Institute

Systematic and random measurement errors in accelerometry and their impact on estimating physical activity (PA) were investigated in a randomized longitudinal intervention study (BEAT) of physical activity in breast cancer survivors using a mirrored validation study (COMPARE). The estimated effect of the intervention on PA was substantially stronger after measurement error adjustment.

Symposium 9

INTEGRATING DIET SCREENING INTO ROUTINE CLINICAL CARE AND COMMUNITY-BASED SETTINGS: THE TIME IS NOW

Wednesday 28 June | 10:00-12:00

Location: Classroom FB-028

Co-Chairs: Maya Vadiveloo & Niyati Parekh

This symposium focuses on advances in dietary assessment screening in clinical settings among diverse groups. Responsive to the American Heart Association and American Academy of Pediatrics' call to action: to simplify clinician-led dietary counseling, speakers will discuss best practices for implementing new tools clinically and working with children and those following ethnic dietary patterns.

Maya Vadiveloo¹, Andrea Deierlein², Niyati Parekh², Mercedes Sotos Prieto³

¹University of Rhode Island/Kingston, ²New York University, ³University Autonomos of Madrid

S09.01 DIETARY ASSESSMENT IS FEASIBLE: APPLICATIONS OF THE HEALTHY HEART SCORE AND MEDITERRANEAN LIFESTYLE SCREENER IN CLINICAL SETTINGS

Mercedes Sotos Prieto^{1,2}, Maya Vadiveloo²

¹University Autonomos of Madrid, ²University of Rhode Island

Decades of epidemiologic research confirm that adults who reach middle age with ideal cardiovascular health live longer, healthier lives free of CVD. This symposium will focus on two validated tools that have been translated from the epidemiological knowledge to the clinic. One is the Healthy Heart Score, and the other one is the applicability of the MEDLIFE, a Mediterranean Lifestyle screener.

S09.02 IMPLEMENTATION AND TESTING OF RAPID DIETARY SCREENING INTO CLINICAL CARE SETTINGS

Maya Vadiveloo¹

¹University of Rhode Island

Diet is a basis of disease prevention, yet is rarely discussed clinically due to lack of time and training for clinicians. Rapid screening tools that use technology to aid diet counseling can help address these barriers; this talk describes the trial protocol for a mixed methods pilot evaluating the clinical utility of the rapid Prime Diet Quality screener (rPDQS) with clinical decision support.

S09.03 CULTURALLY-SENSITIVE DIETARY ASSESSMENT: INSIGHTS FROM THE MASALA STUDY

Niyati Parekh¹

¹New York University

We focus on the DASH diet and CV in a South Asians (SA). We present findings from our study in a SA cohort that will inform public health policy for SA dietary guidance, while supporting clinical guidelines to improve health. Our work also entails the development of tools that can capture unique aspects of the SA diet. We discuss the prospect of implementing a rapid screener in a clinical setting.

S09.04 DIETARY ASSESSMENT CONSIDERATIONS IN CHILDREN AND ADOLESCENTS - KEY TAKEAWAYS FROM THE PEDIATRIC FOOD INTAKE SYSTEM PILOT STUDY

Andrea Deierlein¹

¹NYU School of Global Public Health

This presentation will provide an overview of current dietary assessment tools available for use in diverse pediatric populations and present pilot findings on the development of a novel assessment tool for self-administration in children ages 8 to 14 years, the Pediatric Food Intake System (P-FITS).

Symposium 10

CO-DESIGNING FIT FOR PURPOSE SOLUTIONS FOR MEASURING PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR

Tuesday 27 June | 1530-1730

Location: Classroom C1060

Chair: Bronwyn Clark

This symposium will explore new methods of physical behaviour measurement designed for particular settings and outcomes and will give a real-world example of how measurement can be integrated into public health settings.

Bronwyn Clark¹, Genevieve Healy¹, Alan Donnelly² and Sjaan Gomersall¹

¹University of Queensland, ²University of Limerick

S10.01 WHAT IS POSSIBLE FOR FUTURE METHODS OF MEASURING PHYSICAL BEHAVIOUR?

Bronwyn Clark¹

¹University of Queensland

Dr Clark will explore the use of combined monitor and self-report methods using triggered momentary sampling. New technologies provide promise for measuring activity and posture in particular contexts like the workplace. Dr Clark will introduce new, participant friendly solutions for measuring sedentary behaviour and physical activity and the context of these.

S10.02 DESIGNING PRODUCTS FIT-FOR-PURPOSE FOR UNDERSTANDING CONTEXT OF CHANGE

Genevieve Healy¹

¹University of Queensland

Desk workers have been identified as a key target group for sedentary behaviour interventions, with sit-stand desks often a key component of successful interventions. Dr Healy will outline measures that have been successfully used for capturing prolonged sedentary time in large-scale studies in workers, and introduce a new measure designed to capture sit-stand desk usage.

S10.03 COMBINED MEASUREMENT OF PHYSICAL ACTIVITY AND DIET; THE WEALTH PROJECT

Alan Donnelly²

²University of Limerick

Physical behaviours may modify dietary behaviours. Combined measurement of diet and physical behaviours is the focus of the European WEALTH research collaboration (Wearable Sensor Assessment of Physical and Eating Behaviours). The presentation will outline the methods being employed in WEALTH, which combine accelerometer measurement with triggered Ecological Momentary Assessment questions.

S10.04 ESTABLISHING A DATA REGISTRY IN AN INTERPROFESSIONAL, COMMUNITY DELIVERED TYPE 2 DIABETES CLINIC

Sjaan Gomersall¹ (Presented by Genevieve Healy¹)

¹University of Queensland

Evaluation of health promotion in healthcare settings is difficult to implement when considering burden on participants, clinical staff, managing expectation of all stakeholders and integration of systems to collect both clinical and evaluation data. Dr Healy will describe the development and implementation of a data registry (and minimum data set) at an interprofessional community clinic for people living with type 2 diabetes.

ORAL SESSIONS

Oral Session #1

METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH – 1

Tuesday 27 June | 14:00-15:00

Location: Concert Hall

Session Chair: Anne Griffin

OS.01.01 COGNITIVE TESTING OF A DIETARY HABITS QUESTIONNAIRE FOR THE NATIONAL NUTRITION SURVEY IN NEW ZEALAND

Berit Follong¹, Caitlin Haliburton¹, Maria Maiquez¹, Jacqui Grey¹, Lisa Te Morenga², Sally Mackay¹, Cliona Ni Mhurchu¹

¹University of Auckland, ²Massey University

Cognitive interviews are a valuable method to design and evaluate questionnaires. A dietary habits questionnaire was developed and updated for the New Zealand Nutrition Survey, and new questions were cognitively tested. Findings informed further improvement of the dietary habits questions ensuring these are interpreted as intended and accurate data is obtained.

OS.01.02 EATING IN SWEDEN 3: DIETARY ACCULTURATION PATTERNS ASSESSED USING RIKSMATENFLEX AMONG SYRIAN, IRAQI AND SOMALI-BORN WOMEN LIVING IN SWEDEN

Marleen Lentjes¹, Zeinab Alsammorraie¹, Sarah Lönnström¹, Karin Lobenius Palmér¹, Anna Karin Lindroos², Jessica Petrelius Sipinen², Robert Brummer¹, Scott Montgomery¹

¹Örebro University, ²Swedish National Food Agency

We extended a web-based 24-hour diet recall (24hDR, Swedish Food Agency) with culture-specific food items. 35 women born in Sweden, 30 born in Syria/Iraq and 26 from Somalia were interviewed 2-3 times. Median energy intake was 7.13, 5.52 and 5.65 MJ/d respectively. The added foods contributed 15% to energy intake (max 75%). Weight consciousness may have contributed to differences in reporting.

OS.01.03 COMPARISON OF A NOVEL MEAL-BASED METHOD OF DIETARY ASSESSMENT AND A 24-HOUR RECALL

Cathal O'Hara¹, Eileen Gibney¹

¹University College Dublin

A novel meal-based dietary assessment was compared with a 24h recall. The meal-based method involved participants choosing, from generic meal images, the meals most like their own intakes. Mean intakes of 33 nutrients were compared, with effect sizes for the differences between methods being small for 24 nutrients, moderate for 3, and large for 6, and P values ranging from <0.001 to 0.965.

OS.01.04 DEVELOPMENT AND VALIDATION OF AN EXPERIENCE SAMPLING DIETARY ASSESSMENT METHOD: A PILOT STUDY

Joke Verbeke¹, Christophe Matthys¹

¹KU Leuven

Experience Sampling Methodology may be the key to lower the burden, improve feasibility and obtain more accurate dietary intake data. A pilot Experience Sampling Dietary Assessment Method (ES-DAM) was developed, validated against a 3-day Food Record and FFQ and evaluated for feasibility. The ES-DAM is promising and shows improved accuracy and feasibility compared to the FFQ.

Oral Session #2

CONTEXTUAL FACTORS (e.g., environmental modifiers)

Tuesday 27 June | 14:00-15:00

Location: Classroom FG-042

Session Chair: Genevieve Healy

OS.02.01 FROM MEAT TO MEATLESS: FACTORS INFLUENCING MEAL CONSUMPTION AND A MARKOV MULTI-STATE MODEL TO ASSESS TRANSITIONS BETWEEN MEALS

Catarina Carvalho¹, Milton Severo¹, Daniela Correia¹, Carla Lopes¹, Duarte Torres¹

¹University of Porto

The factors associated with the consumption of meat vs. meatless meals and transitions between meal categories across lunch and dinner in adults from the Portuguese Food, Nutrition, and Physical Activity Survey were studied. Meat meals were the most common. Women, older, and higher educated people had higher odds of consuming meatless meals and lower hazard of shifting to meat in the next meal.

OS.02.02 CHRONOTYPE: ASSOCIATIONS WITH CIRCADIAN RHYTHM DISRUPTING EATING BEHAVIOURS AND CIRCADIAN MISALIGNMENT IN WOMEN AFTER BREAST CANCER

Kelly D'cunha¹, Yikyung Park², Louise Marquart-Wilson¹, Marina Reeves¹

¹University of Queensland, ²Washington University School of Medicine, St Louis

Breast cancer survivors (n=159; 18-75 years; median 9.5 months post-diagnosis) with late chronotype, compared to early, tended to first eat after 8AM (p=0.02), eat last (≥ 25 kcal) after 8PM (p=0.01), and have greater circadian misalignment (>1.67 ; $>10\%$ difference). Chronotype may be important to consider in nutrition interventions that aim to modify diet to improve survival after breast cancer.

OS.02.03 ARE THERE ETHNIC INEQUITIES IN DIET QUALITY IN CANADA? A NATIONALLY REPRESENTATIVE ANALYSIS OF TRENDS BETWEEN 2004 AND 2015

Dana Lee Olstad¹, Sara Nejatnamini¹, Rosanne Blanchet², Jean-Claude Moubarac², Jane Polsky³, Lana Vanderlee⁴, Seyed Hosseini Pozveh¹

¹University of Calgary, ²Université de Montreal, ³Statistics Canada, ⁴Université Laval

We quantified absolute and relative gaps in diet quality by ethnicity among adults in Canada and trends in these gaps between 2004 and 2015. Mean HEI-2015 scores ranged from 51.9 among Indigenous to 61.9 among South Asian adults. All ethnic minorities had higher HEI-2015 scores than Whites except Indigenous adults. Absolute and relative dietary gaps remained stable over time.

OS.02.04 ASSESSING DIETARY ADEQUACY AND TEMPORAL VARIABILITY IN THE CONTEXT OF COVID 19 AMONG INDIGENOUS AND RURAL COMMUNITIES IN KANUNGU DISTRICT, UGANDA: A MIXED-METHODS STUDY

Giulia Scarpa¹, Lea Berrang Ford¹, Janet Cade¹, Sabastian Twesigomwe², Paul Kakwangire², Elizabeth Ninshaba¹, Maria Galazoula¹

¹University of Leeds, ²HACC

Nutrient and caloric intake of Batwa and Bakiga communities in south-western Uganda varied over the first six months of 2021, although their diet was overall inadequate. During Covid-19, in fact, more than half of the participants reported to have consumed less and less nutritious food.

Oral Session #3

DATABASE DEVELOPMENT AND RESOURCES

Tuesday 27 June | 14:00-15:00

Location: Classroom FB-028

Session Chair: Sarah McNaughton

OS.03.01 MULTI-COUNTRY COMPARISON OF ULTRA-PROCESSED FOOD INTAKE USING DIETARY INTAKE DATA COLLECTED THROUGH THE AUTOMATED SELF-ADMINISTERED 24-HOUR DIETARY ASSESSMENT TOOL

Kamila Gabe¹, Euridice Martinez¹, Priscila Machado², Milena Nardocci³, Christine White⁴, Vicki Rynard⁴, Patricia Jaime¹, David Hammond⁴

¹University of Sao Paulo, ²Deakin University, ³University of Montreal, ⁴University of Waterloo

Data collected through the Automated Self-Administered 24-Hour Dietary Assessment Tool showed that ultra-processed foods made up 39.3% of the energy consumed in Australia, 43.8% in Canada, and, 50.8% in the United States. Using the same dietary intake assessment tool across countries might reduce variability related to data collection, enhancing cross-country comparability of NOVA estimates.

OS.03.02 ADVANCEMENTS IN THE US NATIONAL DIETARY SURVEILLANCE DATABASE TO GENERATE NUTRIENT PROFILES FOR BABY FOODS AND READY-TO-EAT CEREALS

Suzanne Morton¹, Donna Rhodes¹, Alanna Moshfeh¹

¹USDA

Food and Nutrient Database for Dietary Studies 2019-2020, the US national dietary surveillance database, contains updates which represent multiple variations of baby-toddler foods and ready-to-eat cereals. Standardized protocols were developed using food composition data for basic ingredients and 7 single/composite nutrient codes to achieve targeted nutrient levels.

OS.03.03 AN APPROACH TO STANDARDIZED APPLICATION OF THE NOVA FOOD PROCESSING CLASSIFICATION SYSTEM TO US DIETARY SURVEILLANCE DATA

Lauren O'Connor¹, Euridice Martinez-Steele², Filippa Juul³, Neha Khandpur⁴, Larissa Galastri Baraldi⁵, Carlos Monteiro², Niyayi Perekh¹, Kirsten Herrick⁶

¹Agricultural Research Service, ²University of São Paulo, ³New York University, ⁴Harvard T.H. Chan School of Public Health, ⁵University of Campinas, ⁶National Cancer Institute

We present an approach to standardize application of the Nova food processing classification system to US dietary surveillance data to improve comparability, reproducibility, and transparency of research. Our method may help inform application of Nova to other datasets promoting comparability, reproducibility, and transparency of future research and is available upon request.

OS.03.04 THE INTEGRATION OF DIETARY BIOACTIVE INTAKE ANALYSIS TO LIBRO FOOD RECORD APP

Liangzi Zhang¹, Maja Omeljaniuk¹, **Federico Bernuzzi**¹, Karen O'Brien², Daniela Segovia-Lizano¹, Jenny Plumb¹, Jennifer Ann-Jarvis¹, Paul Finglas¹, Maria Traka¹

¹Quadram Institute, ²Nutritics

Collecting accurate and complete dietary data beyond nutrients is becoming increasingly important. We have evaluated population-based bioactive intake in a pilot human cohort, by integrating bioactive content from a comprehensive database into a food record app alongside its nutrient analysis, which have enabled a standardized data processing of bioactive data for future studies.

Oral Session #4

DIETARY ASSESSMENT ACROSS THE LIFESPAN – 1

Wednesday 28 June | 13:45-14:45

Location: Concert Hall

Session Chair: Clare Collins

OS.04.01 VALIDATION OF MINIMUM DIETARY DIVERSITY FOR WOMEN (MDD-W) FOR ADOLESCENT GIRLS AND BOYS (10-19 YEARS): IDENTIFYING A FOOD GROUP CUT-OFF USING FAO/WHO GIFT

Giles Hanley-Cook¹, Juan Pablo Parraguez¹, Simone Gie¹, Sara Hoogerwerf¹, Bridget Holmes¹

¹Food and Agriculture Organization of the United Nations (FAO)

We aimed to define an optimal food group cut-off for MDD-W that predicts adequate micronutrient intakes among adolescents. We performed ROC analysis using 24-HR data from 46,340 boys and 37,585 girls aged 10-19. Overall, a ≥ 5 food group cut-off performed adequately in classifying both girls and boys with a MAR > 0.60 . However, a cut-off of ≥ 4 was more acceptable for girls in low-income countries.

OS.04.02 FOOD PROCESSING, AS CLASSIFIED BY NOVA, AND DIETARY PATTERNS OF US INFANTS AND TODDLERS

Kirsten Herrick¹, Lauren O'Connor¹, Euridice Martinez-Steele², Lu Wang³, Fang Fang Zhang³

¹National Institutes of Health/National Cancer Institute, ²University of Sao Paulo, ³Friedman School of Nutrition Science and Policy

Unprocessed/minimally processed foods, according to the Nova system, contributed most to nutrients and food groups that are under-consumed by US infants and toddlers, but ultra-processed foods contributed meaningfully to iron and zinc, as well as added sugars and sodium. More research is needed on to understand the utility and sensitivity of using Nova for infants and toddlers.

OS.04.03 EVALUATING SIMILARITIES BETWEEN MEASURES OF ULTRAPROCESSED AND HYPERPALATABLE FOOD INTAKE DURING PREGNANCY AND POSTPARTUM

Leah Lipsky¹, Jenna Cummings², Mia Kwan¹, Tonja Nansel¹

¹Eunice Kennedy Shriver National Institute of Child Health and Human Development, ²University of Liverpool

Ultra-Processed (UPF) and hyperpalatable foods (HPF) promote low diet quality. In 365 women who completed 6 24-hour diet recalls from pregnancy through postpartum, UPF & HPF were correlated ($r=0.4$), represented a substantial portion of energy intake (50%-67% in both periods), and were inversely related to diet quality. Inconsistent differential relations do not favor the utility of either measure.

OS.04.04 INTAKES OF MAJOR FOOD GROUPS IN CHINA AND THE UK: RESULTS FROM 100,000 ADULTS PARTICIPATING IN THE CHINA KADOORIE BIOBANK AND THE UK BIOBANK

Keren Papier¹, Maria Kakkoura¹, Huaidong Du¹, Tim Key¹

¹University of Oxford

We compared intakes of major food groups between UK Biobank (UKB) and China Kadoorie Biobank (CKB) study participants. Data from 25,000 CKB and 74,000 UKB participants showed large differences in dietary intakes and their socio-economic correlates between the two cohorts providing insight into the interpretation of potentially different diet-disease associations between CKB and UKB.

Oral Session #5

CONTEXTUAL FACTORS, METHODS DEVELOPMENT AND STATISTICAL ASPECTS OF PHYSICAL ACTIVITY

Wednesday 28 June | 13:45-14:45

Location: Classroom FG-042

Session Chair: Alan Donnelly

OS.05.01 EVALUATION OF A PROTOCOL TO COLLECT ACCELEROMETER DATA IN OLDER CARE HOME (CH) RESIDENTS WITHIN THE CONTEXT OF THE REACH (RESEARCH EXPLORING PHYSICAL ACTIVITY IN CARE HOMES) FEASIBILITY CLUSTER RANDOMISED CONTROL TRIAL (cRCT)

Jennifer Airlie¹, Anne Forster², Karen Birch²

¹Bradford Teaching Hospitals NHS Foundation Trust, ²University of Leeds

An evaluation of an accelerometer data collection protocol, developed specifically for use with care home residents through earlier conceptualisation and optimisation work, was undertaken. Results suggest a tailored data collection protocol is key to maximising participant compliance and ensuring high quality data on physical activity and sedentary behaviour are collected.

OS.05.02 USING MMWAVE TECHNOLOGY TO DETECT POSTURE AND LOCATION OF WORKERS IN OFFICE SETTINGS

Bronwyn Clark¹, Mallika Mukherji¹, Matthew D'Souza¹

¹The University of Queensland

Millimetre-wave (mmWave) monitoring of office behaviour provides a potential method for detecting when and where workers sit to inform interventions to reduce sitting time. This study showed the accuracy of predictions of sitting/standing and location at a desk using artificial intelligence algorithms from mmWave data compared to direct observation was high (all >90%) in test sets.

OS.05.03 INTER-BRAND AND INTER-DYNAMIC RANGE COMPARABILITY OF RAW ACCELEROMETER DATA AS USED IN PHYSICAL BEHAVIOUR RESEARCH

Annelinde Lettink¹, Wessel van Wieringen¹, Teatske Altenburg¹, Mai J Chinapaw¹, Vincent van Hees²

¹Amsterdam UMC, ²Accelting

To compare raw acceleration signals between brands and dynamic ranges we conducted five mechanical shaker experiments. In the frequency domain, signals were more comparable at low shaker frequencies while in the time domain signals were more comparable at high shaker frequencies. Our findings aid understanding and anticipation of differences in behaviour outcomes between brands and dynamic ranges.

OS.05.04 A NATIONAL AUDIT INTO THE DIFFERENT LEVELS OF TYPICAL SCHOOL PROVISION OF PHYSICAL EDUCATION, PHYSICAL ACTIVITY AND SPORTS IN THE REPUBLIC OF IRELAND

Padraic Rocliffe¹, Brendan O'Keeffe¹, Ian Sherwin¹, Patricia Mannix-McNamara¹, Ciaran Donncha¹

¹University of Limerick

Participating schools (n=112) completed the validated physical education, physical activity and sports provision evaluation index. A One-way ANOVA with Tukey Kramer's Post-Hoc test was performed to examine variation in the demographic profile relative to the indicators of provision. A proposed grade for each indicator of provision was established using a standardized, international grading system.

Oral Session #6

PATTERNS (multidimensionality and dynamism)

Wednesday 28 June | 13:45-14:45

Location: Classroom FB-028

Session Chair: Tracy McCaffrey

OS.06.01 PROFILES OF FOODS CONSUMED AT SNACKS VARY BY CONTEXTUAL FACTORS AND DIET QUALITY: ANALYSIS OF THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY 2017-2018

Rebecca Leech¹, Maree Thorpe¹, Sarah McNaughton¹

¹Deakin University

Tailored healthy eating advice may help combat the overconsumption of unhealthy “snack” foods. Adult dietary data from two 24-hour recalls collected in the National Health and Nutrition Examination Survey 2017-18 were analysed. Using latent variable mixture modelling, we revealed distinct profiles of food intakes at snacks and examined how they varied by contextual factors and diet quality.

OS.06.02 HEALTHY FOOD DIVERSITY AND THE RISK OF CARDIOVASCULAR DISEASES IN THE EPIC-POTSDAM STUDY

Daniela Nickel¹, Franziska Jannasch¹, Elif Inan-Eroglu¹, Olga Kuxhaus¹, Matthias Schulze¹

¹German Institute of Human Nutrition Potsdam-Rehbruecke

The Healthy Food Diversity (HFD)-Index was investigated aetiologically in relation to cardiovascular diseases (CVD) and methodologically by investigating its components separately. Our German population was characterised by high diet diversity, but moderate diet quality. The HFD-Index was inconsistently associated with incident CVD, and results were mainly driven by the diet quality component.

OS.06.03 CLUSTERS OF CARBOHYDRATE-RICH FOOD INTAKE AND INCIDENCE OF TYPE 2 DIABETES IN A SWEDISH PROSPECTIVE COHORT

Kjell Olsson¹, Esther González-Padilla¹, Suzanne Janzi¹, Anna Stubbendorff¹, Yan Borné¹, Stina Ramne¹, Ulrika Ericson¹, Emily Sonestedt¹

¹Lund University

We used K-means cluster analysis to identify clusters of carbohydrate-rich food intakes and analyse the associations with incident type 2 diabetes in a Swedish prospective cohort. The analysis resulted in five clusters, of which four were defined by consumption of specific foods. The cluster defined by a high fruit intake was the only cluster associated with a lower incidence of type 2 diabetes.

OS.06.04 OPERATIONALIZING THE DIETARY APPROACHES TO STOP HYPERTENSION (DASH) DIET AMONG SOUTH ASIAN ADULTS IN THE MEDIATORS OF ATHEROSCLEROSIS IN SOUTH ASIANS LIVING IN AMERICA (MASALA) STUDY COHORT (2010-2013)

Niyati Parekh¹, Bridget Hussain¹, Andrea Deierlein¹, Alka Kanaya², Sameera Talegawkar³, Joyce O'Connor¹, Meghana Gadgil²

¹New York University, ²University of California, San Francisco, ³The George Washington University

This analysis applies scoring of the Dietary Approaches to Stop Hypertension (DASH) diet to a cohort of South Asian adults living in the United States (US), which can be used to assess the diet-disease relationship in this growing population group in the US.

Oral Session #7

METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH – 2

Wednesday 28 June | 16:15-17:15

Location: Concert Hall

Session Chair: Amos Laar

OS.07.01 RELATIVE VALIDITY ACROSS AGE GROUPS OF THE DITEETIK! SMARTPHONE FOOD RECORD APP COMPARED TO 24-H DIETARY RECALL

Ceciel Dinnissen¹, Marga Ocké¹, Coline van den Bogaard-van Oosterhout¹, José Drijvers¹, Eline Nawijn¹, Marja Beukers¹, Steffen Bruns¹, Caroline Van Rossum¹, Ido Toxopeus¹

¹National Institute for Public Health and the Environment (RIVM)

The DitEetik! smartphone app is developed as a potential replacement of 24-h dietary recall assessments. Older adults might experience more difficulty in correctly using the app. Differences in median intakes per food group were assessed across age group by the two methods. In the oldest group, the median intake was underestimated for more food groups than in the younger age groups.

OS.07.02 HOUSEHOLD EXPERIENCE WITH TWO WEARABLE CAMERAS FOR ASSESSMENT OF DIETARY INTAKE IN RURAL AND URBAN LOCATIONS IN GHANA, AFRICA

Megan McCrory¹, Matilda Steiner-Asiedu², Edward Sazonov², Mingui Sun³, Wenyan Jia³, Tom Baranowski⁴, Benny Lo⁵, Gary Frost⁵, Alex Anderson⁶

¹Boston University, ²University of Alabama, Tuscaloosa, ³University of Pittsburgh, ⁴Baylor College of Medicine, ⁵Imperial College London, ⁶University of Georgia

Our group has been studying the feasibility, validity, and acceptance of innovative approaches to assess dietary intake in Ghana with wearable cameras. Acceptance of these devices by wearers is critical to their application. Overall, user acceptance of two wearable cameras by urban and rural households in Ghana was high.

OS.07.03 UK NATIONAL DIET AND NUTRITION SURVEY ROLLING PROGRAMME (NDNS RP): IMPACT OF THE CHANGE IN DIET METHODOLOGY ON MONITORING TRENDS OVER TIME

Caireen Roberts¹, David Collins¹, **Polly Page**¹

¹University of Cambridge

In 2019, the NDNS RP moved from paper diary to online 24hr recall, Intake24. Given the importance of the survey to monitor UK dietary trends over time, Intake24 data from 2019 to 2020 was compared with diary data from 2008 to 2019 by plotting as a time series. Overall intakes were comparable, however step changes were seen for some foods which were likely to be due to the change in methodology.

OS.07.04 DEVELOPMENT OF QUALITY METRICS FOR MONITORING DIETARY ASSESSMENT

Lynne Wilkens¹, Carol Boushey¹, Fengqing Zhu², Edward Sazonov³, Edward Delp², Marie Fialkowski¹, Jennifer Rood⁴, Kirsten Herrick⁵, Yurii Shvetsov¹, Keala Swafford¹, Kevin Cassel¹, Megan McCrory⁶

¹University of Hawaii, ²Purdue University, ³University of Alabama, ⁴Pennington Biomedical Research Center, ⁵National Cancer Institute, ⁶Boston University

A quality monitoring procedure for daily dietary assessments has been developed that includes a list of quality metrics and a preliminary aggregate score for each day. These quality metrics will be evaluated through application to past studies that used different assessment tools in different populations and settings.

Oral Session #8

TECHNOLOGICAL ADVANCES AND COMBINING METHODS IN PHYSICAL ACTIVITY TO ENHANCE MEASUREMENT

Wednesday 28 June | 16:15-17:15

Location: Classroom FG-042

Session Chair: Catherine Norton

OS.08.01 VALIDATION OF A DIGITAL INTERVIEWER-ADMINISTERED 24-H DIETARY RECALL METHOD IN LOW-MIDDLE INCOME SETTINGS: THE SOUTH ASIA BIOBANK

Divya Bhagtani¹ on behalf of NIHR Global Health Research Unit South Asia Biobank investigators and collaborators
¹*University of Cambridge*

Formulating dietary strategies for chronic disease prevention requires assessment of population dietary intake as a crucial first step. In South Asia there is a high chronic disease burden but a lack of readily available tools for dietary assessment at scale. We adapted and implemented the web-based Intake24 diet recall system and tested its validity in South Asian populations.

OS.08.02 FOOD PROCESSING: COMPARISON OF DIFFERENT FOOD CLASSIFICATION SYSTEMS

Sara Rodrigues¹, Taissa de Araújo¹, Milena de Moraes¹, Cláudia Afonso¹, Cristina Santos¹
¹*Porto University*

The aim is to compare different classification systems for evaluating highly/ultra-processed food (H/UPF) on overall diet. Data from DAFNE-AnemosSoft and food items classified according to five systems. H/UPF contributions varied from 10.2% (NOVA) to 47.4% (IARC). Highest discrepancies were for alcoholic beverages, milk/milk products, sugar/sugar products, added lipids, and cereal/cereal products.

OS.08.03 USER EXPERIENCES OF THE AUTOMATED SELF-ADMINISTERED DIETARY ASSESSMENT TOOL, INTAKE24, AND AN IMAGE-ASSISTED MOBILE FOOD RECORD 24-HOUR RECALL RELATIVE TO OBSERVED INTAKE

Janelle Healy¹, Christina Pollard¹, Clare Collins², Megan Rollo¹, Carol Boushey³, Barbara Mullan¹, Richard Norman¹, Edward Delp⁴, Fengqing Zhu⁴, Sharon Kirkpatrick⁵, Clare Whitton¹, Amira Hassan¹, Deborah Kerr¹
¹*Curtin University*, ²*Newcastle University*, ³*University of Hawaii Cancer Center*, ⁴*Purdue University*, ⁵*University of Waterloo*

In semi structured interviews, adult participants (n=26) reported wanting to complete 24-hour food recalls accurately and on their own. Food identification and portion estimation were perceived obstacles to accuracy when using current food identification and portion estimation tools. Participants felt that taking and viewing their images with the mFRTM app enhanced perceived accuracy.

OS.08.04 COMBINATION OF DEVICE-BASED MOTION SENSORS FOR MONITORING DAILY HABITUAL PHYSICAL ACTIVITY IN MANUAL WHEELCHAIR USERS: A SYSTEMATIC REVIEW

Kati Karinharju¹, Sjaan Gomersall², Kelly Clanchy¹, Sean Tweedy²
¹*Satakunta University of Applied Sciences*, ²*The University of Queensland*

This study evaluated the validity of device-based motion sensors for estimating four PA outcomes: energy expenditure, self-propulsion(SP), activities other than SP; and wheelchair kinematics in manual wheelchair users (MWU). Combination of two devices, one on the right wrist and one on the wheelchair wheel, seems to provide the most comprehensive method for measuring daily habitual PA in MWU.

Oral Session #9

CONTEXTUAL FACTORS (e.g., environmental modifiers)

Wednesday 28 June | 16:15-17:15

Location: Classroom FB-028

Session Chair: Benoît Lamarche

OS.09.01 DIETARY QUALITY INDEXES BASED ON SELF-REPORTED INTAKES AND BIOMARKER DATA IN RELATION TO METABOLIC SYNDROME AND GUT MICROBIAL DIVERSITY

Ulrika Ericson¹, Sophie Hellstrand¹, Suzanne Janzi¹, Gustav Smith¹, Gunnar Engström¹, Emily Sonestedt¹, Marju Orho-Melander¹

¹Lund University

We examined adherence to Swedish dietary guidelines, gut microbial diversity and Metabolic syndrome (n=3667) using self-reported data and diet biomarkers. Biomarker indexes were found to be a valuable complement to indexes from self-reports. Combining data types may, depending on outcome, be the most valid instrument, and has potential for further improvement if better biomarkers are identified.

OS.09.02 A REVIEW OF BIOMEDICAL AND ANTHROPOMETRIC MEASURES USED IN NUTRITION SURVEYS IN FIVE COUNTRIES

Berit Follong¹, Caitlin Haliburton¹, Maria Maiquez¹, Jacqui Grey¹, Sally Mackay¹, Cliona Ni Mhurchu¹

¹University of Auckland

Objective measures such as nutritional biomarkers and anthropometric measures are often collected alongside self-reported dietary intake and nutrition-related health in national nutrition surveys. A review of biomedical and anthropometric measures used in national surveys in five countries was undertaken to determine and select the priority measures for the New Zealand Nutrition Survey.

OS.09.03 MEASURING DISCRETIONARY SALT: A TRADE OFF BETWEEN CONVENIENCE AND ACCURACY

Rachael McLean¹, Nan Xin Wang¹, Sheila Skeaff¹, Claire Cameron¹

¹University of Otago

We compared the feasibility and accuracy of two methods of measuring discretionary salt: the gold standard lithium-tagged salt (saltLi) method and 24 hour diet recalls in a convenience sample of New Zealand adults. The saltLi method was more burdensome for participants and researchers than 24 hour diet recall. Researchers must weigh up feasibility of data collection with accuracy when measuring

OS.09.04 METABOLOMIC METHODS IN DIETARY PATTERN FEEDING STUDIES: A SCOPING REVIEW

Jordan Stanford¹, **Clare Collins**¹, Erin Clarke¹, Jessica Ferguson¹

¹University of Newcastle

This review synthesises the methodological components of feeding studies designed to identify the diet-related metabolome in biospecimens, including plasma, serum, and urine in response to various dietary feeding interventions. Findings from this review found substantial variability in the methods used including dietary patterns, sample collection, and analytical techniques.

Oral Session #10

METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH – 3

Thursday 29 June | 09:45-10:45

Location: Concert Hall

Session Chair: Kevin Dodd

OS.10.01 ASSOCIATION BETWEEN THE SCORE IN THE FOOD PRACTICES BRAZIL SCALE (FPBr) AND SHORT- AND LONG- TERM ACHIEVEMENT OF DIETARY INTAKE RECOMMENDATIONS

Kamila Gabe¹, Caroline dos Santos Costa¹, Francine da Silva Santos¹, Thays de Souza Nascimento¹, Patricia Constante Jaime¹

¹University of São Paulo

Data from the NutriNet-Brasil Cohort showed the Food Practices Brazil Scale (FPBr) predicts the achievement of recommendations of fruits and vegetables, nuts, whole grains, legumes, and ultra-processed foods 1-2 and 6-8 months after the scale completeness. These results endorse its convergent validity and reinforce its usefulness as a simple way to evaluate adherence to the Brazilian Food Guide.

OS.10.02 DEVELOPING AND EVALUATING A SCREENER TO ASSESS ALIGNMENT OF ADULTS' DIETARY INTAKE WITH THE 2019 CANADA'S FOOD GUIDE HEALTHY FOOD CHOICES RECOMMENDATIONS

Joy Hutchinson¹, Tabitha Williams¹, Kevin Dodd², Patricia Guenther³, Benoit Lamarche⁴, Ailish Westaway¹, Alexandra Bédard⁴, Camille Pitre⁴, Simone Lemieux⁴, Angela Wallace⁵, Maude Perreault⁵, Alicia Martin⁵, Jess Haines⁵, Sharon Kirkpatrick¹

¹University of Waterloo, ²National Cancer Institute, ³University of Utah, ⁴Université Laval, ⁵University of Guelph

The Canadian Food Intake Screener assesses alignment with Canada's Food Guide's food choices recommendations. English and French versions were informed by cognitive interviews and face and content validity testing. Moderate construct validity is suggested by the screener's ability to differentiate among groups with known differences and the correlation with Healthy Eating Food Index-2019 scores.

OS.10.03 VALIDATION OF THE RAPID PRIME DIETARY SCREENER (rPDQS), A BRIEF DIETARY ASSESSMENT TOOL WITH SIMPLE TRAFFIC LIGHT SCORING

Selma Kronsteiner Gicevic¹, Monique Tello², Elizabeth Lincoln³, Jordan Kondo³, Uma Naidoo³, Teresa Fung⁴, Walter Willett⁵, Anne Thorndike⁶

¹Medical University of Vienna, ²Agenus Inc., ³Harvard Medical School, ⁴Simmons University, ⁵Harvard TH Chan School of Public Health, ⁶Massachusetts General Hospital

We developed and evaluated Rapid Prime Diet Quality Screener (rPDQS) relative to food group intakes, HEI-2015 scores and nutrient intakes from ASA24. The rPDQS responses significantly correlated with the HEI-2015 scores, food groups and nutrients from ASA24. The rPDQS, a valid screener with a traffic light scoring system, could help non-RDN clinicians provide initial dietary counseling.

OS.10.04 VALIDITY OF MEAL TIMING ASSESSED BY TRADITIONAL DIETARY ASSESSMENT METHODS IN COMPARISON WITH MEAL TIMING BASED ON IMAGE TIME STAMPS USING A WEARABLE CAMERA

Megan McCrory¹, Kimberly Siu¹, Xin Yang², Tonmoy Ghosh², Abul Doulah³, Janine Higgins³, Jason Parton², Lynne Wilkens⁴, Carol Boushey⁴, Fengqing Zhu⁵, Edward Delp⁵, Marie Fialkowski⁴, Edward Sazonov²

¹Boston University, ²University of Alabama, Tuscaloosa, ³University of Colorado Anschutz Medical Campus, ⁴University of Hawaii, Manoa, ⁵Purdue University

Newly developed image-based dietary assessment tools offer more precision to determine meal timing than traditional dietary assessment methods. We compared meal timing from three self-report methods to that captured by image time stamps from a wearable camera (AIM-2). Self-reported methods showed longer meal durations than image time stamps in the natural setting but not the research center.

Oral Session #11

STATISTICAL ASPECTS AND ANALYSIS TOOLKIT

Thursday 29 June | 09:45-10:45

Location: Classroom FG-042

Session Chair: Carolina Batis

OS.11.01 STANDARDIZED FOOD GROUPING TO ENHANCE HARMONIZATION OF DIETARY DATA AND REPORTING

Agnieszka Balcerzak¹, Victoria Padula de Quadros¹, Teresa Bevere¹, Pauline Allemand¹, Elaine Borghi², Luc Ingenbleek², Bridget Holmes¹

¹Food and Agriculture Organization of the United Nations, ²World Health Organization

Standardized dietary data analysis and reporting of survey results requires a high level of data harmonization and consistent grouping of reported foods and drinks. A two-level food grouping system has been developed to support harmonization and dissemination of dietary data collected in diverse contexts and using different methods.

OS.11.02 SALT AND SEASONING USAGE ASSESSED AS COVARIATES IN THE ESTIMATION OF USUAL IODINE INTAKE AND ITS PREVALENCE OF INADEQUACY

Sandra Crispim¹, Débora Silva¹, Sylvia Franceschini², Mariana Macedo², Vanessa Schrubbe¹

¹Federal University of Paraná, ²Federal University of Viçosa

The influence of covariates on the estimates of usual iodine intake and the prevalence of its inadequacy in pregnant women was studied. The adjustment for the remaining salt and seasoning covariates produced higher intake means. The usual iodine intake mean from the best model was 136.6mcg, with 60.9% and 0.1% of them having insufficient and excessive intake, respectively.

OS.11.03 ASSESSMENT OF IRON INADEQUACY PREVALENCE IN PREMENOPAUSAL WOMEN USING EFSAS DIETARY REFERENCE VALUE

Marjolein de Jong¹, Alida Melse-Boonstra², Johanna Geleijnse², Janneke Verkaik-Kloosterman¹

¹Dutch National Institute for Public Health and the Environment, ²Wageningen University

Insufficient information on the entire iron requirement distribution is available to use the PA (probability approach) to assess the prevalence of inadequacy of premenopausal women. Aim of this study was to estimate the iron requirement distribution based on EFSA's requirement value, to enable reliable use of the PA. We advise using the gamma distribution based on the provided percentiles by EFSA.

OS.11.04 SOCIODEMOGRAPHIC FACTORS ASSOCIATED WITH THE NOVA BRAZILIAN DIET QUALITY INDEX (Nova-BDQI)

Thays Souza¹, Maria Laura Louzada¹, Kamila Gabe¹

¹University of Sao Paulo

The present study aimed to analyse the association between sociodemographic factors and the Nova Brazilian Diet Quality Index (Nova-BDQI). The national representative survey Budget Family Survey (BFS) 2017-2018 (n=46,164) was used. We observed that the Nova-BDQI was associated with sociodemographic factors.

Oral Session #12

MACHINE LEARNING AND DATA SCIENCE APPROACHES IN PHYSICAL ACTIVITY AND DIETARY DATA

Thursday 29 June | 09:45-10:45

Location: Classroom FB-028

Session Chair: Brian Carson

OS.12.01 ARTIFICIAL INTELLIGENCE-MEASURED PEDESTRIAN ENVIRONMENT FEATURES FROM GOOGLE STREET VIEW IMAGES AND INTERACTIONS WITH A 12-MONTH INTERVENTION TO INCREASE PHYSICAL ACTIVITY

Mark Adams¹, Akshar Patel¹, Ariane Middel¹, Christine Phillips²

¹Arizona State University, ²Clemson University

This study utilized validated computer vision models for detecting 8 pedestrian environment features (PEFs) (i.e., sidewalks, sidewalk buffers, crosswalks, curb ramps, pedestrian crossing signals) in 512 participant neighborhoods and then evaluated whether PEFs moderated a 1-year intervention with 1-year post-intervention follow-up to increase adults' accelerometer-measured physical activity.

OS.12.02 UNPACKING UNCERTAINTY AND VARIABILITY: HOW STATISTICAL METHODS IMPACT HEALTH IMPACT ESTIMATES IN DIETARY RISK-BENEFIT ASSESSMENT

Daniela Correia¹, Catarina Carvalho¹, Sofia Costa¹, Carla Lopes¹, Duarte Torres¹

¹University of Porto

Dietary risk-benefit assessment (RBA) can estimate the health impacts of changes in food consumption. The accuracy of these estimates depends on the methodology and quality of the parameters used. We evaluated the influence of uncertainty and variability on health impact estimates in RBA models using an example of replacing animal-based foods with plant-based substitutes. Including uncertainty and variability in RBA models.

OS.12.03 THE iDINE STUDY: IMPROVING DIGITAL IMAGING FOR NUTRIENT EVALUATION

Erin Hennessy¹, Eleanor Shonkoff², Shreyas Kamath¹, Srijith Rajeev¹, Sos Agaian³, Kenneth Chui¹, Christina Economos¹, Abigail Stone¹, Karen Panetta¹

¹Tufts University, ²Merrimack College, ³City University of New York

This study sought to develop a system architecture using artificial intelligence and computer vision techniques to identify food items and determine amounts consumed. We employed a phased approach to acquire and process food images; detect and classify objects; create 3-D models; estimate volume and weight, and nutrient/energy consumption. We will report outcomes from this work.

OS.12.04 MONITORING OF DIETARY INTAKE AND PHYSICAL ACTIVITY WITH THE AUTOMATIC INGESTION MONITOR (AIM)

Edward Sazonov¹, Megan McCrory², Janine Higgins³, Billal Hossain¹, Samuel LaMunion⁴, Graham Thomas⁵, Edward Melanson³, Scott Crouter⁶, Carol Boushey⁷, Fengqing Zhu⁸, Edward Delp⁸, Marie Fialkowski⁷, Yurii Shvetsov⁷, Keala Swafford⁷, Lynne Wilkens⁷

¹University of Alabama, ²Boston University, ³University of Colorado Denver, ⁴National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), ⁵The Miriam Hospital, ⁶University of Tennessee Knoxville, ⁷University of Hawaii, ⁸Purdue University

The Automatic Ingestion Monitor (AIM) is a passive device that combines sensors (optical eating detection, accelerometer and still camera) that may be used for monitoring of diet, nutrition and physical activity. The presentation introduces the AIM device and methods of signal processing and machine learning used in data analysis.

Oral Session #13

METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH – 4

Thursday 29 June | 11:15-12:15

Location: Concert Hall

Session Chair: Ulf Ekelund

OS.13.01 **COMPARING INDICATORS FOR MONITORING AND EVALUATION OF HEALTHY DIETS: MDD-W VERSUS GDR SCORE AND GDQS**

Giles Hanley-Cook¹, Simone Gie¹, Juan Pablo Parraguez¹, Sara Hoogerwerf¹, Lynnette Neufeld¹, Bridget Holmes¹

¹Food and Agriculture Organization of the United Nations (FAO)

We analyzed the relationship between promising metrics for global dietary monitoring using 24-HRs from 75,250 women. Increments in the MDD-W food group diversity score were strongly associated with higher GDQS, but not GDR score. Although MDD-W reflects dietary diversity, results suggest it may be predictive of overall diet quality and might therefore be a proxy for more comprehensive indicators.

OS.13.02 **CHARACTERISING THE REPORTING OF LEFTOVER PORTIONS IN INTAKE24: AN AUTOMATED ONLINE 24-HOUR RECALL**

Anila Farooq¹, Toni Steer¹, Angela Mulligan¹, Kirsty Trigg¹, Suzanna Abraham¹, Polly Page¹

¹University of Cambridge

Intake24, an online 24-hour recall tool, has ability to capture leftover (L/O) portions. However this is not standard across all portion elements and may increase participant burden. L/O reporting was examined in the UK National Diet and Nutrition Survey (2019-2022). Differences were found in sex, age and across recalls. This work will aid future decisions about the leftovers feature in Intake24.

OS.13.03 **WHAT IS THE BEST FORMAT FOR COLLECTING DIETARY DATA FOR RISK ASSESSMENT: CONTINUOUS OR PERIODIC COLLECTION?**

Sandrine Carrillo¹, Jade Assoukpa¹, Morgane Champion¹, Blandine De Lauzon-Guillain², Cecilia Samieri², Carine Dubuisson¹

¹French Agency for Food, Environmental and Occupational Health & Safety, ²INSERM

The French Food Safety Agency conducted a study comparing the collection of food consumption data on a periodic or continuous basis, based on a literature review and consultancy of other countries. Though surveys were mainly periodic, a tendency was to consider continuous collection (funding secured, up-to-date data, in-house expertise), assessed as the best option for risk assessment in France.

OS.13.04 **ASSESSING THE ENVIRONMENTAL IMPACT OF DIETS BASED ON INDIVIDUAL DIETARY DATA: NEW INFOGRAPHICS FOR THE FAO/WHO GIFT PLATFORM**

Victoria Padula de Quadros¹, Jacqueline Tereza da Silva¹, Agnieszka Balcerzak¹, Teresa Bevere¹, Pauline Allemand¹, Valeria Scrilatti¹, Giovanni Luca Abblasio¹, Rita Ferreira de Sousa¹, Catherine Leclercq², Marika Ferrari², Ximena Schmidt Rivera³, Sarah Bridle⁴, Christian Reynolds⁵, Bridget Holmes¹

¹Food and Agriculture Organization of the United Nations (FAO), ²Council for Agricultural Research and Economics,

³Brunel University London, ⁴University of York, ⁵City, University of London

Individual quantitative dietary data can be used to assess the environmental impact of diets. Dietary data from the FAO/WHO GIFT platform were matched to a database containing greenhouse gas emissions, water use and land use of foods. Results will be shown in FAO/WHO GIFT as infographics, offering an understanding of how the composition of the diet influences its environmental impact.

Oral Session #14

DIETARY ASSESSMENT ACROSS THE LIFESPAN – 2

Thursday 29 June | 11:15-12:15

Location: Classroom FG-042

Session Chair: Alexandra Cremona

OS.14.01 EVALUATION OF SMARTAPPETITE, A SMARTPHONE APP FOR IMPROVING ADOLESCENT FOOD LITERACY AND HEALTHY EATING: A QUALITATIVE ANALYSIS

Louise McEachern¹, Holly Schaafsma¹, Heather Jantzi¹, Nicholas Woods¹, Sean Doherty², Colleen O'Connor³, Jamie Seabrook³, Jess Haines⁴, Leia Minaker⁵, Jason Gilliland¹

¹University of Western Ontario, ²Wilfrid Laurier University, ³Brescia University College, ⁴University of Guelph, ⁵University of Waterloo

SmartAPPetite is a messaging app to send personalised messages to nudge users to healthier dietary behaviours. We present the findings of a qualitative study among participants of the SmartAPPetite for Youth study. Analysis showed the app had positive influences on food literacy and awareness of dietary choices. The app has the potential to promote healthier dietary behaviours among teens.

OS.14.02 RELATIVE VALIDITY OF NUTRIENT INTAKE OF THE DITEETIK! FOOD RECORD APP ACROSS EDUCATIONAL LEVELS

Eline Nawijn¹, Ceciel Dinnissen¹, José Drijvers¹, Coline van den Bogaard-van Oosterhout¹, Caroline Van Rossum¹, Ido Toxopeus¹, Marga Ocké¹

¹National Institute for Public Health and the Environment (RIVM)

DitEetk! food record app compared to 24HDR were evaluated across educational levels. Median nutrient intake seems to be underestimated more in the app among lower educated people than among middle and higher educated people.

OS.14.03 DEVELOPMENT OF A WEB-BASED FOOD FREQUENCY QUESTIONNAIRE (FFQ) - EXPERIENCES FROM DEVELOPING A MULTI-LANGUAGE FFQ ADJUSTED FOR THE CULTURALLY DIVERSE SWISS POPULATION

Sarah Pannen¹, Roland Gassmann², Elsa Chevillard³, Robert Vorburger², Pedro Marques-Vidal⁴, Sabine Rohrmann¹, Angeline Chatelan³, Nina Steinemann¹, Janice Sych²

¹University of Zurich, ²ZHAW School of Life Sciences and Facility Management, ³Geneva School of Health Sciences, HES-SO University of Applied Sciences and Arts Western Switzerland, ⁴Lausanne University Hospital and University of Lausanne

Given that Switzerland currently lacks a web-based FFQ, we aimed to develop a multi-language FFQ that allows the semi-automatic collection of dietary intake data in the culturally diverse Swiss population. For the development, we followed a multi-step procedure consisting of three stages including: 1) review, 2) usability test, and 3) improvement of the FFQ for each of the implemented languages.

OS.14.04 DEFINING THE OPTIMAL MDD-W THRESHOLD TO IDENTIFY PREGNANT WOMEN WITH INADEQUATE MICRONUTRIENT INTAKE IN LOW-AND MIDDLE-INCOME COUNTRIES

Eric Verger¹, Sabrina Eymard-Duvernay¹, Dang Bahya-Batinda¹, Loty Diop², Elodie Becquey², Aulo Gelli², Alemayehu Argaw³, Giles Hanley-Cook³, Sunny Kim², Rock Zagre², Phuong Hong Nguyen², Shivani Kachwaha², Helen Harris-Fry⁴, Naomi Saville⁵, Edwige Landais¹, Mathilde Savy¹, Yves Martin-Prével¹, Carl Lachat³

¹IRD, ²IFPRI, ³Ghent University, ⁴LSHTM, ⁵University College London

In 5 dietary surveys on pregnant women from Burkina Faso, India, and Nepal, we evaluated the minimum number of food groups (FG) to be consumed, out of the 10 FG of the MDD-W, to define a population-level indicator to predict a mean probability of adequacy above 0.60 for 11 micronutrients. As already shown for non-pregnant women, the threshold of 5 or more FG performed better overall.

Oral Session #15

FOOD SECURITY, COMBINING ENVIRONMENTAL INDICATORS AND HIERARCHICAL FOOD STRUCTURES

Thursday 29 June | 11:15-12:15

Location: Classroom FB-028

Session Chair: Sharon Kirkpatrick

OS.15.01 ADDING ENVIRONMENTAL INDICATORS TO A DATASET OF HOUSEHOLD PURCHASES OF FOOD AND BEVERAGES IN NEW ZEALAND

Kathryn Bradbury¹, Bruce Kidd¹, Eli Kliejunas¹, Cliona Ni Mhurchu¹

¹*University of Auckland*

We incorporated estimates of greenhouse gas emissions associated with the production, processing and transportation of foods in New Zealand into the NielsenIQ Homescan® panel - a dataset containing information on food purchases from 2,500 New Zealand households. This allowed us to quantify the environmental impact of household food purchases.

OS.15.02 ADDED BENEFITS OF SCREENING FOR NUTRITION SECURITY ALONGSIDE FOOD SECURITY SCREENING

Eric Calloway¹, Amy Yaroch¹, Leah Carpenter¹, Tony Gargano¹

¹*Gretchen Swanson Center for Nutrition*

We aimed to explore the usefulness of adding a newly developed one-item nutrition security screener to the commonly used two-item food security screener. Only those who screened positive for both nutrition and food insecurity had increased odds for poor diet and health outcomes compared to the referent group. The findings demonstrate the advantage of pairing nutrition and food security screening.

OS.15.03 NEW MEASURES TO ASSESS THE "OTHER" THREE PILLARS OF FOOD SECURITY: AVAILABILITY, UTILIZATION, AND STABILITY

Eric Calloway¹, Amy Yaroch¹, Leah Carpenter¹, Tony Gargano¹

¹*Gretchen Swanson Center for Nutrition*

We aimed to develop scales to assess the three pillars of food security not currently assessed. Our systematic process led to the development of new measures and findings support their reliability and validity. These tools can promote a more comprehensive understanding of the food insecurity experience by pairing them with an existing measure of Access to allow assessment of all four pillars.

OS.15.04 LEVERAGING HIERARCHICAL FOOD STRUCTURE TO IMPROVE HEALTH RESPONSE MODELS: NHANES 2007-2018

James Pleuss¹, Samantha Kleinberg¹

¹*Stevens Institute of Technology*

Using food consumption from NHANES 2007-18, we leverage the hierarchical nature of foods to select features at the most impactful level of granularity on two food structures (FNDDS and WWEIA). Compared with traditional feature selection methods, this data-driven approach leads to higher classification accuracy on 8 health responses and reveals novel associations between food and health.

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Tuesday, June 27 | 12:15-14:00

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Poster Session #3

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Poster presenters will be at their poster during their assigned poster time. Posters may be available for viewing prior to the scheduled poster time.

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Van rossum, Caroline T	P1-033
Vandaele, Frank	P3-110
Vena, Jennifer E	P2-070
Verger, Eric O	P1-010
Vernarelli, Jacqueline A	P2-088
Vilela, Sofia	P3-127
von Hurst, Pamela R	P3-119
Vuong, Tiffany	P1-007
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Wallace, Michael P	P2-070, P3-124
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Wood, Lisa	P2-058
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Yang, Chengxin	P2-056
Yang, Ji Eun	P3-120
Yeh, Yi-Chia	P2-053
Yokoo, Edna M	P2-074
Zamora-Ros, Raul	P2-055
Zeng, Jun	P2-056
Zimmer, Meghan	P2-072, P3-128
Zimmerman, Thea P	P1-006, P3-128

POSTER SESSIONS

Poster Session #1

Tuesday, June 27

12:15-14:00

DIETARY ASSESSMENT ACROSS THE LIFESPAN

P1-026 NUTRIDIARY: EXPERT AND LAYMEN EVALUATION OF A SMARTPHONE-BASED WEIGHED DIETARY RECORD APP

Linda Klasen¹, Maike Elena Schnermann¹, Ute Alexy¹, Johanna Conrad², Stefanie A. J. Koch¹, Ionut Andone³, Ute Nöthlings¹

¹University of Bonn, ²German Nutrition Society (DGE), ³Murmuras GmbH

To test the usability of NutriDiary, a smartphone-based weighed dietary record (WDR), in a German population, an evaluation study was conducted. Participants completed a WDR, entered a dummy meal and answered an evaluation questionnaire. The calculated median system usability scale score of 82.5 (Q1-Q3:70-87.5) indicated good usability and supported its feasibility for use in larger scale studies.

P1-027 FINDING MEASUREMENT NEEDS FOR YOUTH ACTIVE TRAVEL TO SCHOOL IN THE US

Stephanie George¹, David Berrigan¹, Andrew Bremer¹, Van Do²

¹National Institutes of Health, ²FHI 360

Increasing active travel to school (ATS) could reduce the deficit in youth physical activity participation; however, surveillance of ATS is limited in the United States. This abstract offers insights from the National Collaborative on Childhood Obesity Research into strengthening surveillance and data collection of ATS behavior as well as ATS environmental, policy, and program supports.

P1-028 DIGIKOST: A DIGITAL APPLICATION FOR DIET AND LIFESTYLE ASSESSMENT AND BENCHMARKING AGAINST NATIONAL GUIDELINES

Hege Henriksen¹, Monica Carlsen¹, Markus Knudsen¹, Anette Hjartåker¹, Rune Blomhoff¹

¹University of Oslo

We developed and evaluated a new digital short digital semi-quantitative food frequency questionnaire, called DIGIKOST, assessing diet and lifestyle factors according to national guidelines, and that offers an immediate personalized feedback. The DIGIKOST was found to be a reliable and valid tool and feasible in use. The digital tool are available for use in research as well as in the clinic.

P1-029 EATING ARCHITECTURE FROM CHILDHOOD TO ADOLESCENCE

Francisca Ibacache¹, Kaitlin Wade¹, Laura Johnson², Nicholas Timpson¹, Kate Northstone¹

¹University of Bristol, ²NatCen

Eating architecture (EA) refers to the size, timing and frequency of eating. We investigated EA variation from childhood to adolescence (7, 10 and 13y) and its relationship with obesity. EA does not substantially change from 7y to 13y. However, EA variables were highly intercorrelated; therefore, new methods to better model EA are required to unpick relationships with obesity-related phenotypes.

P1-030 ANIMAL-SOURCE ENERGY CONSUMPTION AND ITS ASSOCIATIONS WITH MACRONUTRIENT INTAKE AMONG FINNISH PRESCHOOLERS

Elina Kettunen¹, Topi Hovinen¹, Riitta Freese¹, Maijaliisa Erkkola¹, Anu Suomalainen¹, Liisa Korkalo¹

¹University of Helsinki

Participants in the cross-sectional MIRA2-study were 2-7-year-old children following a vegan (n=29), vegetarian (n=16) or mixed (n=22) diet. From 3-d food record data, we calculated the proportion of animal source energy intake (ASEP). We found overlap between ASEPs of the vegetarian and mixed diet groups and strong correlations of ASEP and macronutrient intakes relevant to cardiovascular health.

- P1-031 THE ELDERLY AS A VULNERABLE GROUP IN DIETARY SHIFTS TOWARDS SUSTAINABLE DIETS: THE CASE OF DIETARY PROTEIN AND AMINO ACID INTAKES**
Niina Kaartinen¹, Meri Simojoki¹, Heli Tapanainen¹, Mirkka Maukonen¹, Liisa Valsta¹, Suvi Itkonen², Anne-Maria Pajari², Satu Männistö¹
¹*Finnish Institute for Health and Welfare*, ²*University of Helsinki*
The study aimed to model how partial replacement of red and processed meat with legumes or cereals affects population shares below estimated average requirements of protein and indispensable amino acids. Based on the FinDiet 2017 data and usual intake modelling methodology it was found that protein intake in the elderly population warrants further attention in the shift towards plant-based diets.
- P1-032 CHILD DIET RECALL ACCURACY DIFFERS BY SETTING, RECALL TYPE AND GRADE: A PILOT WITH ELEMENTARY SCHOOL CHILDREN IN GRADES 1 AND 3, AND SUMMER CAMPERS IN GRADES 4-6**
Sina Gallo¹, **Yu-Chen Lin¹**, Suzanne Baxter²
¹*University of Georgia*, ²*University of South Carolina*
This pilot tested whether asking children to report both food items and amounts eaten [quantified] in a diet recall, vs. reporting only food items [non-quantified], improved reporting accuracy of the lunch meal in two congregate meal settings: elementary school (with children in grades 1 and 3) and summer camp (with children in grades 4, 5, and 6).
- P1-033 DUTCH PEOPLE ARE EATING AND DRINKING MORE HEALTHILY. IMPORTANCE OF REPEATED STANDARDIZED DIETARY SURVEYS**
Caroline Van Rossum¹, Eline Nawijn¹, Ceciel Dinnissen¹, Marja Beukers¹, Henny Brants¹, Martine Jansen¹, Marga Ocké¹
¹*RIVM (Dutch National Institute for Public Health and the Environment)*
Dutch people are eating more plant products, like fruit and vegetables, unsalted nuts and legumes. They are eating less red/processed meat and also drinking fewer sugary drinks. However, most Dutch people are not following the dietary guidelines yet. Based on repeated standardized measurements, it was possible to get insight in dietary trends which are of importance for policy makers.
- P1-034 DOES SUPPLEMENT USE PUSH DIETARY INTAKES BEYOND THE UPPER INTAKE (UL) LEVELS - PERSPECTIVES TO UNDER-REPORTING AND SOCIOECONOMIC GROUP DIFFERENCES**
Heli Tapanainen¹, Laura Sares-Jäske¹, Laura Paalanen¹, Niina Kaartinen¹, Liisa Valsta¹
¹*Finnish Institute for Health and Welfare*
We studied whether the total intake, considering food supplements (FS), elevates intakes over the upper intake levels when taking under-reporting (UR) into account. Using the FinDiet 2017 Survey data and the SPADE method to model usual intake, we found that both FS use and energy UR, but also SES group differences, are important factors to consider when studying excessive nutrient intake.
- P1-035 EXPLORING SLEEP METRICS OVER THE COURSE OF A YEAR FOR CHILDREN IN THE GUELPH FAMILY HEALTH STUDY (GFHS)**
Katarina Osojnicki¹, Hannah Coyle-Asbil¹, Becky Breau¹, Jess Haines¹, David Ma¹, Andrea Buchholz¹, Lori Ann Vallis¹
¹*University of Guelph*
The purpose of this study was to determine how sleep of children aged 1.5-5 years changes over a year. Findings indicate improvements including rise times significantly later at 1-year (1Y) compared to 6-months (6M). Sleep efficiency and total sleep time were significantly improved at 1Y compared to 6M and baseline and wake after sleep onset was significantly reduced at 1Y compared to 6M and BL.
- P1-036 THE ASSOCIATION OF HIGHLY PROCESSED FOOD CONSUMPTION WITH FOOD CHOICE VALUES AND FOOD LITERACY IN JAPANESE ADULTS: A NATIONWIDE CROSS-SECTIONAL STUDY**
Nana Shinozaki¹, Kentaro Murakami¹, Xiaoyi Yuan², Ryoko Tajima², Mai Matsumoto², Keiko Asakura³, Shizuko Masayasu⁴, Satoshi Sasaki¹
¹*The University of Tokyo*, ²*National Institute of Biomedical Innovation, Health and Nutrition*, ³*Toho University*, ⁴*Ikurien-naka*
This cross-sectional questionnaire study explored the link between highly processed food (HPF) consumption and food choice values and food literacy in 2232 Japanese adults. Several aspects of food choice values and food literacy, such as safety and satiety responsiveness, were associated with HPF consumption, and these aspects differed between males and females.

- P1-037 USE OF SUGAR AND SWEETENER AS AN ADDITIONAL ITEM ACCORDING TO SOCIOECONOMIC, DEMOGRAPHIC AND NUTRITIONAL STATUS IN BRAZIL**
Maria Eliza de Mattos Tobler Mastrangelo¹, Marina Campos Araujo², Maria Beatriz Trindade de Castro¹
¹Federal University of Rio de Janeiro, ²Sergio Arouca National School of Public Health
 Study results showed a relationship between social and demographic parameters and use of sugar and sweetener. In addition, it was observed an inverse association between income and education with sugar and a direct association between income and education with sweeteners. Found results provided information that can contribute with strategies to support public policies that promote healthy eating.
- P1-038 GLYCEMIC INDEX OF BREAKFAST OF PREGNANT WOMEN WITH GESTATIONAL DIABETES MELLITUS ESTIMATED FROM CAPILLARY GLYCEMIA**
Camilla Rocha¹, Thainá Calderoni¹, Karolyne Torres², Michelle Teixeira¹, Valeria Braulio², Jane C Capelli², Fávia Lima², Monica Carvalho²
¹Federal University of State of Rio de Janeiro, ²Federal University of Rio de Janeiro
 Low glycemic index (GI) foods intake can help control Gestational Diabetes Mellitus (GDM). The evaluating effects of GI from isolated food on daily life is a challenge. The study pretend develop an estimating protocol for breakfast GI of pregnant women diagnosed with GDM. GI was influenced positively by all macronutrients, on average. GI of meals nedeeding be rethanked.
- P1-039 MICRONUTRIENT QUALITY VARIES BY LIFE STAGE AMONG THE U.S. POPULATION, NHANES 2015-2018**
 Alexandra Cowan¹, Regan Bailey¹, **Janet Tooze²**
¹Texas A&M AgriLife Research, ²Wake Forest University School of Medicine
 The Total Nutrient Index (TNI), a micronutrient-based score that evaluates total nutrient exposures from foods/beverages and dietary supplements (DS), was used to examine micronutrient quality of total usual intakes among the U.S. population (>2y) by life stage. Overall, TNI scores varied by life stage and were higher when inclusive of intakes from DS (66.8-77.6), versus foods alone (63.3-75.0).

MACHINE LEARNING AND DATA SCIENCE APPROACHES

- P1-017 TAKEAWAY PIZZA PORTION ESTIMATION WITHIN INTAKE24**
 Kirsty Trigg¹, **Toni Steer¹**, Angela Mulligan¹, Suzanna Abraham¹, Anila Farooq¹, David Collins¹, Jackie Forman¹, Polly Page¹
¹University of Cambridge
 Currently in Intake24, takeaway pizza consumption is quantified using retail images and portion sizes. Research has shown that takeaway pizzas tend to be larger than retail pizzas. The existing approach does not lend itself well to capturing larger takeaway pizza intakes. We propose a new set of images and portion weights for takeaway pizzas, to improve their estimation.
- P1-021 IS CHANGE IN INCLINATION THE DEFINING CHARACTERISTIC OF SLEEP ACTIGRAPHY?**
David Loudon¹, Douglas Maxwell¹
¹PAL Technologies Ltd
 We describe a method for analysing thigh-worn accelerometer data to define periods of stillness using both dynamic accelerations and thigh orientation. This approach involves three stages: identifying static periods, characterising dynamic acceleration periods, and combining these using inclination. These stillness periods could be used to identify key sleep parameters and napping behaviours.
- P1-022 CHILEAN SER24H: A NEW DIETARY SOFTWARE FOR ASSESSING CHILEAN DIETS**
Angela Martinez¹, Natalia Rebolledo², Maria Fernanda Mujica², Marcela Reyes², Camila Corvalán²
¹University of Valparaiso, ²University of Chile
 Softwares processing dietary data can contribute to systematize dietary data collection, but they must consider local food context to be valid. We development a software to collect 24-hour recalls (SER-24H), and document the experience of its use. Additionally, we compare the SER24H and weighed food records (WFR). SER24H is a helpful tool for interviews in Chilean dietary studies.

METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH

P1-001 DEVELOPMENT OF AN INDEX TO ASSESS ADHERENCE TO THE NORWEGIAN DIETARY GUIDELINES

Torunn Totland¹, Marianne Abel¹, Bente Øvrebø¹, Kristin Holvik¹, Elling Bere¹, Liv Elin Torheim¹, Anne Lise Brantsæter¹

¹Norwegian Institute of Public Health

Guidelines (NDG) was measured by an index constructed by intake frequency of 15 dietary components. Each component was assigned a score of 0-5 or 0-10, adding up to a maximum index score of 100. The index may be used for monitoring trends in adherence to the NDGs, identify target groups for interventions and priorities in public health policies.

P1-002 EVALUATING AND SELECTING AN AUTOMATED 24-HOUR RECALL TOOL FOR THE NEW ZEALAND NUTRITION SURVEY

Berit Follong¹, Sally Mackay¹, Caitlin Haliburton¹, Jacqui Grey¹, Maria Maiquez¹, Cliona Ni Mhurchu¹

¹University of Auckland

Automated 24-hour recalls are commonly used in national nutrition surveys as research suggests that accurate dietary data can be collected while minimising participant burden and survey costs. As many tools exist, a scoping review and comprehensive evaluation were conducted to identify the most suitable tool for use within the New Zealand context.

P1-003 DEVELOPMENT, VALIDATION, AND REPRODUCIBILITY OF FOOD FREQUENCY QUESTIONNAIRE (FFQ) TO ASSESS THE DIETARY INTAKE OF BRUNEI DARUSSALAM ADULTS

Satvinder Kaur Nachatar Singh¹, Syahirah Marshidi¹, Hui Chin Koo², Vaidehi Ulaganathan¹, Munawwarah Tarif³

¹UCSI University, ²Tunku Abdul Rahman University College, ³Ministry of Health, Brunei

This study aimed to develop and validate a food frequency questionnaire (FFQ) for assessing the dietary intake of Brunei adults. The FFQ consisted of 138 food items from 12 food groups, and its validity and reproducibility were tested against a two-day dietary record. The FFQ demonstrated good validity in terms of cross-classification and Bland-Altman plots, and moderate agreement.

P1-004 EATING IN SWEDEN 1: ADAPTATION OF THE SWEDISH NATIONAL DIETARY SURVEY INSTRUMENT (RIKSMATENFLEX) FOR FOODS AND DISHES FROM SYRIA, IRAQ AND SOMALIA

Marlene Lentjes¹, Sarah Lönnström¹, Karin Lobenius Palmér¹, Anna Karin Lindroos², Jessica Petrelius Sipinen², Scott Montgomery¹, Robert Brummer¹

¹Örebro University, ²Swedish National Food Agency

We asked 44 women born in Syria and Iraq and 38 from Somalia to self-administer a web-based 24-hour diet recall (24hDR, by Swedish Food Agency), followed by an interviewed 24hDR to identify culture-specific food items. Self-administration was successful in 30%. Interviewed 24hDR obtained low, but more plausible energy intake and identified 78 culture-specific foods for addition to the food list.

P1-005 EATING IN SWEDEN 2: DIFFERENCES IN MEAL PATTERNS BETWEEN SWEDISH, SYRIAN, IRAQI AND SOMALI-BORN WOMEN LIVING IN SWEDEN ASSESSED USING RIKSMATENFLEX

Marlene Lentjes¹, Sarah Lönnström¹, Karin Lobenius Palmér¹, Anna Karin Lindroos², Jessica Petrelius Sipinen², Robert Brummer¹, Scott Montgomery¹

¹Örebro University, ²Swedish National Food Agency

We included 41 women born in Sweden, 44 born in Syria/Iraq and 38 from Somalia who completed a 24-hour diet recall (24hDR). Median daily energy intake was 7.22, 5.72 and 5.67 MJ respectively. Mealtimes, number of eating occasions and amount of energy consumed at and between meals differed between the groups. Results are important when giving advice about diet and disease management e.g. diabetes.

P1-006 HEALTHY EATING INDEX-2015 SCORES AMONG ADULTS DERIVED FROM OBSERVED VERSUS RECALLED DIETARY INTAKE

Patricia Guenther¹, Carrie Durward², Kevin Dodd³, Nancy Potischman⁴, Thea Zimmerman⁵, Deirdre Douglass⁵, Abiodun Atoloye², Lisa Kahle⁶, Jill Reedy⁷, Sharon Kirkpatrick⁸

¹University of Utah, ²Utah State University, ³U.S. National Cancer Institute, ⁴U.S. National Institutes of Health, ⁵Westat,

⁶Information Management Services, Inc., ⁷US National Cancer Institute, ⁸University of Waterloo

Concordance between Healthy Eating Index (HEI)-2015 scores derived from observed vs. reported intakes by adults was examined. Intake was observed for three meals in one day. The next day participants completed a 24-hour recall that was self-administered, with or without assistance, or interviewer-administered. Differences in HEI-2015 scores derived from observed vs. reported intake were small.

- P1-007** **DIETARY ASSESSMENT IN PERSONALIZED NUTRITION INTERVENTIONS: A SYSTEMATIC REVIEW AND QUALITY ASSESSMENT**
Margaret Allman-Farinelli¹, Tiffany Vuong¹, Brianna Boljevac¹
¹*The University of Sydney*
Precision medicine employs n-of-1 personalized study designs. A systematic literature review located seven such nutrition-related studies and we assessed the quality and type of dietary assessment methods using a modified version of a published tool that scores out of 6. We found most methods were poor (<3) to acceptable (median 3) and were not validated. Thus, conclusions drawn may be unreliable.
- P1-008** **SECULAR TRENDS IN INFANT FEEDING PRACTICES DURING THE FIRST YEAR OF LIFE IN NORWAY: FINDINGS FROM 1998 TO 2019 - THE SPEDKOST SURVEYS**
Anne Lene Kristiansen¹, Jannicke Borch Myhre¹, Mari Mohn Paulsen², Torunn Holm Totland², Britt Lande³, Lene Frost Andersen¹
¹*University of Oslo*, ²*Norwegian Institute of Public Health*, ³*Norwegian Directorate of Public Health*
Aims of the present study were to assess secular trends in breastfeeding and to explore associations between age at introduction of solid foods and breastfeeding cessation. Data from three national dietary surveys in Norway, including infants born in 1998 (Spedkost 1, n = 1537), 2006 (Spedkost 2, n = 1490) and 2018 (Spedkost 3, n = 1831), were used.
- P1-009** **VALIDITY OF THE UPDATED 24-H RECALL SOFTWARE GLOBODIET FOR THE GERMAN NATIONAL NUTRITION MONITORING**
Carolyn Krems¹, Friederike Wittig¹, Ann Katrin Engelbert¹, Andrea Strassburg¹
¹*Max Rubner-Institut*
The validity of an updated GloboDiet version for the German National Nutrition Monitoring was examined. Nitrogen intake based on the German Nutrient Database (BLS) 3.02 of 107 adults were compared with nitrogen urinary excretion. Energy intake was compared to total energy expenditure (n = 80). In summary, results suggest a valid recording of food consumption by the German GloboDiet version.
- P1-010** **DEVELOPMENT AND VALIDATION OF A HEALTHY DIETARY DIVERSITY SCORE EASILY IMPLEMENTABLE IN INTERVENTION STUDIES**
Eric Verger¹, Anne-Fleur Jacquemot², Rosalie Pratt³, Rozenn Gazan³, Christophe Dubois⁴, Nicole Darmon⁵, Catherine Feart²
¹*IRD*, ²*INSERM*, ³*MS-Nutrition*, ⁴*Trophis*, ⁵*INRAE*
We developed a healthy dietary diversity score based on the consumption occurrence of 20 food groups in line with French dietary guidelines and easy to implement in intervention studies. Applied to the dietary data of 696 older adults of the latest French dietary survey, the score was independent from energy intake, positively associated with nutrient adequacy and inversely with energy density.
- P1-011** **ADAPTATION AND ALIGNMENT OF AN ECOLOGICAL MOMENTARY DIETARY ASSESSMENT APP TO FACILITATE FOOD INTAKE AND FOOD ENVIRONMENT ASSESSMENT IN GREECE, POLAND, SPAIN, SWITZERLAND, AND THE NETHERLANDS**
Desiree Lucassen¹, Hanne de Jong¹, Noreen Siddiqui², Maria Matias de Pinho³, Edith Feskens¹
¹*Wageningen University and Research*, ²*Amsterdam UMC*, ³*Utrecht University*
Traqq® is an ecological momentary dietary assessment app developed in the Netherlands. Our aim is to adapt Traqq® for food environmental research in other European countries. We will describe the 4-step tailoring process which include: 1) translation of the app; 2) development of a country-specific food list; 3) adaptation of country-specific portion sizes; 4) translation of situational questions.
- P1-012** **PREDICTIVE VALIDITY OF A TWO-QUESTION INSTRUMENT OF GRAZING ON OBESITY AND PSYCHOLOGICAL DISTRESS IN A MIDDLE-INCOME COUNTRY**
Rosely Sichieri¹, Carlos Moraes², Jose Appolinario², Dean Spirou³
¹*Universidade do estado do Rio de Janeiro*, ²*Universidade Federal do Rio de Janeiro*, ³*Western Sydney University*
Grazing is a repetitive consumption of small amounts of food, without hunger, with two subtypes: compulsive (CG) and non-compulsive (NCG). In a survey with 2297 participants, Brazil a two-question instrument estimated CG of 10.2% and NCG 29.8%. CG, but not NCG was associated with obesity compared to no grazing (26.6 vs. 47.5). Odds ratio of anxiety and depression was about 2 for NCG and 8 for CG.

- P1-013 DEVELOPMENT OF THE CC24 A WEB-BASED SELF-ADMINISTERED CLOSED 24-HOUR RECALL TO CAPTURE INTAKE OF FOODS AND BEVERAGES AT THE BRAND LEVEL IN MEXICO**
Carolina Batis¹, Tania Aburto¹, Erick Angulo¹, Zugey Hernández¹, Simón Barquera¹
¹National Institute of Public Health, Mexico
 We developed the CC24 based on the principles of the Oxford WebQ but capturing product brands (n=636) to monitor front-of-package labeling policies. Validation is underway, yet in a web-based cohort the instruments was accepted, completion took 15 min, food groups %kcal was similar to national surveys and the CC24 captured that the mean intake of products with warning labels was three.
- P1-015 SHORT VERSION OF THE ONLINE MEAL-BASED DIET HISTORY QUESTIONNAIRE FOR EVALUATING THE OVERALL DIET QUALITY AND QUALITY OF EACH MEAL TYPE IN JAPANESE ADULTS: A SIMULATED VALIDATION**
Kentaro Murakami¹, Nana Shinozaki¹, Barbara Livingstone², Shizuko Masayasu³, Satoshi Sasaki¹
¹University of Tokyo, ²Ulster University, ³Ikurien-naka
 We recently validated the Online Meal-based Diet History Questionnaire (MDHQ). Here, we simulated the Healthy Eating Index-2015 assessed using a short version of the MDHQ (sMDHQ), including only questions on main meals (breakfast, lunch, and dinner) and alcoholic beverages (85 questions, 39% of the MDHQ), on 222 adults. The results were compared with those obtained from 4-day dietary records.
- P1-016 CHARACTERISING CONFLICTS IN ACTIVITY CLASSIFICATION ACROSS DIFFERENT ACTIVITY MONITORS**
Craig Speirs¹, Malcolm Granat²
¹PAL Technologies Ltd/University of Strathclyde, ²University of Salford
 Differing device placement locations may present issues in ensuring consistent activity classification across different devices. Within a population of older adults we observed a large difference in the pattern of sedentary accumulation, between hip-worn monitors and thigh-worn monitors, across common periods of wear.

PHYSICAL ACTIVITY ACROSS THE LIFESPAN

- P1-024 THE EFFECTS OF TEMPERATURE ON THE USE OF OUTDOOR SPACES FOR PHYSICAL ACTIVITY BY CYCLISTS IN LIMERICK CITY**
Mabliny Thuany Gonzaga Santos¹, Thayse Natacha Gomes¹, Alan Donnelly¹
¹University of Limerick
 We estimated trends in the use of public spaces by cyclists in Limerick and changes in this use due to the temperature in 2019 and 2020. A decline in the use of some routes across the year in 2020, but not in 2019 was shown. Increasing temperature was positive for the use of some spaces. Counters can detect outdoor physical activity and temperature plays a relevant role on the use of the routes.
- P1-025 COMPLIANCE WITH THE 24-HOUR MOVEMENT BEHAVIOR GUIDELINES FOR CHILDREN IN THE GUELPH FAMILY HEALTH STUDY (GFHS)**
Hannah Coyle-Asbil¹, Becky Breau¹, Andrea Buchholz¹, David W.L. Ma¹, Jess Haines¹, Lori Vallis¹
¹University of Guelph
 This study investigated the number of children in the GFHS who met the physical activity, screen and sleep 24-hour movement guidelines. Findings indicate that out of the children with valid data for all three movement behaviours (n=204), 4% (8) met none, 36% (73) met one, 52% (106) met two, and 8% (17) met all three of the guidelines.

STATISTICAL ASPECTS, INCLUDING MEASUREMENT ERROR

- P1-043 MISREPORTING OF ENERGY INTAKE AND BREAKFAST, LUNCH, AND DINNER SKIPPING IN BRAZILIAN ADOLESCENTS: RESULTS OF A NATIONWIDE CROSS-SECTIONAL STUDY**
Tais Lopes¹, Geisa Gabriela Rodrigues¹, Luana Blaudt¹, Luana Monteiro¹, Amanda Souza¹, Rosangela Pereira¹
¹Federal University of Rio de Janeiro
 This study aims to evaluate the association between the main meals skipping according to misreporting (MR) of energy intake of 71,740 students. MR was assessed by Huang et al. The underreporting of energy intake was more prevalent, especially among individuals classified as overweight/obese and those who skipped main meals. MR is one of the main sources of error in assessment of food consumption.

- P1-044** **COMPARISON OF HEALTHY EATING FOOD INDEX (HEFI)-2019 SCORES BASED ON LINEAR AND EXPONENTIAL SCORING FUNCTIONS TO MEASURE ADHERENCE TO CANADA'S FOOD GUIDE 2019 RECOMMENDATIONS AMONG OLDER ADULTS**
Didier Brassard¹, Stéphanie Chevalier¹
¹McGill University
This study compared exponential and linear scoring for the Healthy Eating Food Index (HEFI-2019) using data from Canadian adults aged 65+. Exponential scoring reduced score variability, increased scores for lower percentiles, and had similar internal consistency to linear scoring. The association with protein intake and mean score between smokers and non-smokers were different in magnitude.

TECHNOLOGICAL ADVANCES

- P1-040** **ONLINE 24-HOUR-RECALL TOOL : AN OPTIMISED USER JOURNEY COMBINING DATA RELIABILITY AND USER-FRIENDLINESS**
Sandrine Carrillo¹, François Ciric¹, Carine Dubuisson¹
¹French Agency for Food, Environmental and Occupational Health & Safety
Dietary collection tools must rely on technological advances to optimise their ergonomics and ensure data quality. For the R24-hour tool of the next French consumption survey, an inventory of existing tools followed by real-life testings led to designing an optimized user journey. Keeping the strengths and improving the weaknesses of the tested tools, it sets the specifications for developments.
- P1-041** **MEASURING DIET INTAKE IN HEALTHY ADOLESCENTS: RELATIVE VALIDATION OF AN ARTIFICIAL INTELLIGENCE-ENHANCED, IMAGE-ASSISTED MOBILE APPLICATION IN THE CHILD COHORT STUDY**
Kozeta Miliku¹, Audrey Moyen², Antonio Rossi¹, Anne-Julie Tessier³, Michelle Helm⁴, Elinor Simons⁵, Meghan Azad⁵, Piushkumar Mandhane⁶, Stuart Turvey⁷, Theo Moraes⁸, Padmaja Subbarao⁸
¹University of Toronto, ²McGill University, ³Harvard School of Public Health, ⁴McMaster University, ⁵University of Manitoba, ⁶University of Alberta, ⁷University of British Columbia, ⁸University of Toronto; Hospital for Sick Children
Understanding dietary intake inadequacies can help in mapping nutritional interventions for primary prevention. Image-assisted methods can increase compliance with reporting diet, allow remote data collection and reduce the time burden. We aim to validate the performance of a food tracker mobile app vs. the validated ASA24 recall web-based platform among Canadian adolescents.
- P1-042** **A COMPARISON OF TRADITIONAL DIETARY DATA COLLECTION FORMATS WITH A SMARTPHONE APPLICATION (MYFITNESSPAL) IN THE ESTIMATION OF ENERGY AND MACRONUTRIENT INTAKES IN COLLEGIATE ATHLETES**
Catherine Norton¹, Brian Carson¹
¹University of Limerick
New technologies may increase both the acceptability to participants and the accuracy of dietary assessment, by automatic estimation of portions, use of barcode scanners and digital images to estimate portions. MyFitnessPal should be considered for use in dietary assessment due to the reduction in burden for participants and practitioners, and good agreement with analyses using gold-standards.

Poster Session #2

Wednesday, June 28

12:00-13:45

BIOMARKERS

P2-054 METABOLOMIC PROFILES OF INFLAMMATORY AND INSULINEMIC DIETARY PATTERNS

Mary Playdon¹, Kennedy Springer¹, Jennifer Sinnott², Benedikt Hauner¹, Benjamin Krick¹, Ben Haaland¹, Prasoona Karra¹, Fred Tabung², Britton Trabert¹, Marc Gunter³, Heather Eliassen⁴, Steven Moore⁵

¹University of Utah, ²Ohio State University, ³Imperial College London, ⁴Harvard School of Public Health, ⁵National Cancer Institute

Diet may modulate chronic disease via inflammation and hyperinsulinemia. We measured the correlation of >1000 blood metabolites with inflammatory and insulinemic dietary patterns within 3 nested case-control studies (N=759). Correlated metabolites included molecules from coffee, fish, wine, wholegrains, fruit/vegetables, and dairy and endogenous metabolites (e.g., energy, plasmalogen, bacterial).

P2-055 PLASMA CONCENTRATION OF 36 (POLY)PHENOLS AND 5-YEAR BODY WEIGHT CHANGE IN A LARGE EUROPEAN COHORT

Mercedes Gil-Lespina¹, Enrique Almanza-Aguilera¹, Jazmín Castañeda¹, Daniel Guiñón-Fort¹, Raul Zamora-Ros¹

¹Bellvitge Biomedical Research Institute

Associations between plasma (poly)phenol concentrations and 5-y body weight change were assessed in 761 participants from the EPIC cohort. In fully adjusted models, baseline plasma concentration of individual (poly)phenols showed a tendency towards prospective 5-year BW maintenance or loss, highlighting flavonoid-derived metabolites.

P2-056 NOVEL DIETARY DNA BIOMARKER METHOD FOR EVALUATING PLANT CONSUMPTION PATTERNS IN CHILDREN WITH OBESITY

Ammara Aqeel¹, Chengxin Yang¹, Tracy Truong¹, Jun Zeng¹, Brianna Petrone¹, Veronica Carrion¹, Sarah Armstrong¹, Lawrence David¹

¹Duke University

Dietary assessment in children is challenging due to several factors. We tested a novel dietary DNA biomarker in a pilot cohort of children with obesity for reconstructing dietary composition using participant stool. We were able to detect 112 unique dietary sequences, capture overall dietary patterns, and measure dietary change due to intervention, demonstrating the capacity of this method.

P2-057 REPRESENTATION OF ADULTS WITH CLASS III OBESITY IN STUDIES ASSESSING VALIDITY OF SELF-REPORTED ENERGY INTAKE USING DOUBLY-LABELED WATER: A SYSTEMATIC REVIEW

Erica Howes¹, Eleni Laskaridou¹, Kevin Davy¹, Valisa Hedrick¹

¹Virginia Tech

This systematic review assessed the inclusion of adults with class III obesity in dietary validation studies using doubly-labeled water and self-reported energy intake. Of the included studies, only 3.5% of participants had class III obesity. Validity data showed mostly underreporting in adults with class III obesity, but more work is needed given the low representation of these participants.

P2-058 METABOLOMIC PROFILES OF HEALTHY AND TYPICAL AUSTRALIAN DIETARY PATTERNS: PROTOCOL FOR A RANDOMISED CROSSOVER FEEDING STUDY IN ADULT

Jordan Stanford¹, **Clare Collins**¹, Jessica Ferguson¹, Erin Clarke¹, Jordan Stanford¹, Tracy Burrows¹, Lisa Wood¹

¹University of Newcastle

Using dietary metabolomics, this study will identify metabolites characterising healthy and unhealthy diets in Australian adults. Participants will be provided with food for an 8-week feeding study, with biospecimens, questionnaires, and physical measures collected. The study will identify objective markers of whole diet patterns, improving understanding of how food affects individual health.

- P2-059 ASSOCIATIONS BETWEEN N-3 PUFA AND FISH INTAKE USING SHORT DIETARY ASSESSMENT METHODS AND WHOLE BLOOD BIOMARKERS**
Anja Biloft-Jensen¹, Jeppe Matthiessen¹, Tue Christensen¹
¹*Technical University of Denmark*
 Estimates of n-3 PUFA and fish intake was compared to blood n-3 PUFA concentrations in 52 males and 68 females aged 18-60 using a 7-day web-based food diary and 2 x 24-hour diet recall. Fish- and almost all n-3 PUFAs estimated from both methods, significantly correlated with biomarker concentrations. Both methods can estimate fish and n-3 PUFA intake. The 2x24hDR requires adjustments for accuracy.
- P2-060 SERUM METABOLITES ASSOCIATED WITH CHOLINE INTAKE IN VEGANS**
Therese Karlsson¹, Anna Winkvist², Millie Rådjursöga³, Lars Ellegård⁴, Anders Bay Nord³, Helen Lindqvist³
¹*University of Gothenburg/Chalmers University of Technology*, ²*University of Gothenburg/Umeå University*, ³*University of Gothenburg*, ⁴*Sahlgrenska University Hospital*
 Associations of dietary total choline, phosphatidylcholine and free choline with serum metabolites, analyzed by 1H-nuclear magnetic resonance spectroscopy, were explored in 43 healthy vegan subjects. Choline intake was associated with several metabolites and differed to some extent with type of choline intake. No metabolites were good at discriminating lower from higher choline intake.
- P2-061 COMPARISON OF DIETARY PATTERNS IDENTIFIED THROUGH DNA METABARCODING AND SELF-REPORTED DIETARY DATA IN AN INTERNATIONAL COHORT**
Benjamin Neubert¹, Brianna Petrone¹, Sharon Jiang¹, Lara Dugas², Candice Choo-Kang², Brian Layden³, Amy Luke⁴, Pascal Bovet⁵, Estelle Lambert⁶, Dale Rae⁶, Kweku Bedu-Addo⁷, Terrence Forrester⁸, Jack Gilbert⁹, Lawrence David¹
¹*Duke University*, ²*Loyola University of Chicago*, ³*University of Illinois at Chicago School of Medicine*, ⁴*Loyola University*, ⁵*University Center for Primary Care and Public Health (Unisanté)*, ⁶*University of Cape Town*, ⁷*Kwame Nkrumah University of Science and Technology*, ⁸*University of the West Indies*, ⁹*University of Chicago*
 Self-reported dietary assessments are often limited by measurement errors. A new technique, DNA metabarcoding, may complement these assessments by analyzing degraded food DNA in stool to assess the plant component of an individual's diet. In a global study of 463 African-origin individuals, DNA metabarcoding identified dietary patterns comparable to 24-hour recall-based dietary patterns.
- P2-062 IDENTIFYING GENETIC MARKERS OF FREE SUGAR AND SWEET TASTING SUGAR INTAKE**
Suzanne Janzi¹, Minghao Kou², Marju Orho-Melander¹, Yan Borné¹, Stina Ramne³, Lu Qi², Emily Sonestedt¹
¹*Lund University*, ²*Tulane University*, ³*Novo Nordisk Foundation Center for Basic Metabolic Research*
 We aimed to identify genetic variants associated with intake of free sugar and sweet tasting sugars in the Malmö Diet and Cancer Study (N=25,660) and UK biobank (N=141,827). Associations were found between both sugar intake definitions and genetic variants in a specific region on chromosome 19. These variants could potentially be used as proxies for sugar intake in future mendelian randomizations.
- P2-063 THE EFFECT OF A CO-DESIGNED EIGHT-WEEK WORKPLACE HEALTH PROMOTION INITIATIVE ON OCCUPATIONAL SEDENTARY TIME, PHYSICAL ACTIVITY AND GLUCOSE CONTROL WITH ADULTS WHO HOLD DESK-BASED OCCUPATIONS: A STUDY PROTOCOL**
Aidan Buffey¹, Brian Carson¹, Jon Salsberg¹, **Alan Donnelly¹**
¹*University of Limerick*
 This study protocol describes a co-designed workplace health promotion initiative (WHPI). The WHPI, was co-designed with a research steering committee (RSC) comprising of staff members in the target workplace and informed by an online survey, focus group and RSC meetings. This study aims to improve occupational sedentary time and physical activity with a multi-component behaviour change WHPI.
- P2-064 RELIABILITY AND VALIDITY OF IMAGE-BASED DIETARY ASSESSMENT IN A CLINICAL TRIAL**
Tina Hsueh-Ting Chiu¹, Ya-Hong Chen¹, Hui-Ling Lee¹
¹*Fu-Jen Catholic University*
 Image-based dietary assessment (IBDA) using cell phone and other devices have been used frequently in clinical and research settings but very few studies have examine the reliability and validity of IBDA, and the ability of Taiwanese nutrition professionals to perform IBDA. We validate IBDA against several food biomarkers.

- P2-065 RELATIVE VALIDITY OF THE PLANETARY HEALTH DIET INDEX IN EUROPEAN ADOLESCENTS**
Leandro Cacau¹, Giles Hanley-Cook², Inge Huybrechts³, Stefaan De Henauw², Carl Lachat², Dirce Marchioni¹, Luis Moreno⁴
¹University of São Paulo, ²Ghent University, ³International Agency for Research on Cancer, ⁴University of Zaragoza
 This study assessed the relative validity of the Planetary Health Diet Index (PHDI) in European adolescents. Higher PHDI scores were associated with increased nutrient intake from plant-based foods and positively associated with plasma biomarkers, while negatively associated with nutrients from animal-based foods. The PHDI showed good relative validity among European adolescents.
- P2-066 MAXIMUM N-MINUTE STEP COUNT: A PUTATIVE FREE-LIVING MEASURE OF PHYSICAL PERFORMANCE**
Craig Speirs¹, Malcolm Granat²
¹PAL Technologies Ltd/University of Strathclyde, ²University of Salford
 Free-living physical behaviour may provide a better proxy for underlying health compared to currently used clinical measures. We propose the use of maximum free-living step count, measured using a body-worn sensors, as a candidate measure. We suggest measuring maximum step count over a two-minute period as a sizeable minority of individuals never have longer periods of stepping.

COMBINING METHODS TO ENHANCE MEASUREMENT

- P2-046 CATEGORIZING COMBINATION FOODS TO CHARACTERIZE DIETARY SOURCES OF ENERGY AND NUTRIENTS**
Rhonda Sebastian¹, Joseph Goldman¹, Alanna Moshfegh¹
¹US Department of Agriculture
 In NHANES, addressing combination foods (i.e., eaten together, coded as multiple line items) has not been conducted. Using 24HR data of adults 20+ y, combinations were assigned to one of 169 WWEIA Food Categories (FC), and FC contributions to dietary intake were assessed. This research clarifies sources of energy/nutrients as consumed and aids identification of dietary patterns of this population.
- P2-047 COMPARISON OF DATA FROM A NEW FOOD FREQUENCY QUESTIONNAIRE AND 4-DAY FOOD RECORDS IN THE MALMÖ OFFSPRING STUDY**
Sophie Hellstrand¹, Emily Sonestedt¹, Peter Nilsson¹, Marju Orho-Melander¹, Ulrika Ericson¹
¹Lund University
 We validated a food frequency questionnaire against the previously validated 4-day food record, RIKSMATEN 2010, in 79 participants of the Malmö Offspring Study. We observed moderate correlations between most of the 15 selected food groups in the 4DFR and FFQ. Our results indicate that the FFQ is a useful and valid instrument for estimation of overall dietary intakes in future Malmö cohorts.
- P2-048 DEVELOPING AND EVALUATING THE PLANETARY HEALTH DIET INDEX FOR THE UNITED STATES TO MEASURE AMERICAN ADHERENCE TO A SUSTAINABLE DIETARY PATTERN**
Molly Parker¹, Sarah Misyak¹, Julia Gohlke¹, Valisa Hedrick¹
¹Virginia Tech
 To assess American adherence to the Planetary Health Diet proposed by the EAT-Lancet Commission, the Planetary Health Diet Index for the United States (PHDI-US) was developed using NHANES data. Validity and reliability were acceptable. The mean score was 39.1 out of 150, indicating Americans are not meeting recommendations. The PHDI-US can identify areas for improving human and planetary health.
- P2-049 ASSESSMENT OF ENERGY-ADJUSTED INFLAMMATORY POTENTIAL OF THE PORTUGUESE DIET USING OPEN-ACCESS DIETARY DATA TO ESTABLISH A REFERENCE POPULATION**
Sofia Martins¹, Daniela Correia¹, **Catarina Carvalho²**, Carla Lopes¹, Duarte Torres²
¹Universi, ²University of Porto
 This study presents recently developed energy-adjusted tools to estimate the dietary inflammation potential among younger (C-EDIP) and older (A-EDIP) ages. Individual EDIP calculations used dietary data available on the Global Dietary Database as the reference population and inflammatory effect scores retrieved from the literature. C-EDIP and A-EDIP were estimated for the Portuguese population.

- P2-050 PREVALENCE OF DIETARY MISREPORTING USING DIFFERENT CRITERIA: WHAT SHOULD WE DO?**
Catherine Norton¹
¹*University of Limerick*
 Erroneous conclusions derived from misreported (MR) self-described food records may adversely affect policy decisions involving nutrition and health. We describe MR prevalence between 36-82% with differing samples and criteria used. Unanimity is required among the scientific and dietetic communities on how best to screen for UR in dietary surveys, as well as whether to include misreported records.
- P2-052 LINKING A NEW DIETARY CARBON FOOTPRINT DATASET TO NCI'S DIET HISTORY QUESTIONNAIRE (DHQ)**
Kirsten Herrick¹, Emily Krueger², Amelia Willits-Smith³, Donald Rose⁴, Erika Faust¹, Lisa Kahle⁵, Jill Reedy¹
¹*National Institutes of Health*, ²*Division of Cancer Control and Population Sciences*, ³*University of North Carolina-Chapel Hill*, ⁴*Tulane University*, ⁵*Information Management Services, Inc.*
 To facilitate research on diets that simultaneously investigate human health and environmental impacts, we performed a linkage between the U.S. NCI's Diet History Questionnaire and a new dietary footprint dataset, the Database of Food Recall Impacts on the Environment for Nutrition and Dietary Studies. This linkage will be released publicly and evaluated among the NIH-AARP Diet and Health Study.
- P2-053 MIXED-METHOD RESEARCH EXPLORES THE BENEFITS OF RESISTANCE TRAINING IN POSTMENOPAUSAL WOMEN**
Yi-Chia Yeh¹, Kuei-Yu Chien¹, Chiao-Nan Chen², Yu-Hsien Tseng³, Kuo-Jen Hsu², Sheng-Yun Huang²
¹*National Taiwan Sport University*, ²*National Yang Ming Chiao Tung University*, ³*Bachelor Program of International Sport Affairs*
 The study was aimed to know benefits of resistance training (RT) on postmenopausal women (PMW) with sarcopenic obesity via mixed method research (MMR). Quantitative and qualitative indicators show the physical benefit, while only qualitative one reveals positive mental effect of RT in PMW. Thus, MMR is suggested for studying PMW with low physical or mental score, to show the advantage of RT.

CONTEXTUAL FACTORS AFFECTING PHYSICAL ACTIVITY LEVELS

- P2-077 PROXIMITY TO SOUTH ASIAN GROCERY STORES AND SOUTH ASIAN MEAL CONSUMPTION IN THE COVID-19 PANDEMIC: QUANTITATIVE RESULTS FROM A FOCUS GROUP IN A FORMATIVE STUDY**
 Samantha Harris¹, Bridget Murphy Hussain¹, Andrew Ashley¹, **Sarika Dasraj¹**, Ola Kiszka¹, Twesha Khanna¹, Sameera Talegawkar², Rupak Shivakoti³, Niyati Parekh¹
¹*New York University*, ²*George Washington University*, ³*Columbia University*
 South Asian (SA) cuisine is hallmarked by its large and varied herb and spice use which was impacted by the COVID-19 pandemic. Twenty-nine self-identifying SA adults living in the United States (US) completed a Qualtrics survey and sixteen participated in a Focus Group. The proximity and frequency of visiting SA stores potentially had a positive impact on SA meal consumption during the pandemic.
- P2-078 EXPLORING CONTEXTUAL FACTORS CONTRIBUTING TO LOW REPLICABILITY OF MODIFIED-WEIGHT DIET QUALITY SCORE ASSOCIATIONS WITH MORTALITY RISK**
Haley Parker¹, Maya Vadiveloo¹
¹*University of Rhode Island*
 In a national analysis, modified-weight Healthy Eating Index (HEI) vs. standard scores were more strongly associated with mortality but when analyses were replicated in the Multiethnic Cohort, standard and modified HEI scores were similarly associated. Hypothesis-generating findings suggest that healthier dietary patterns may have contributed to low replicability of modified-weight HEI findings.
- P2-079 EFFECTS OF HIGH-INTENSITY INTERVAL EXERCISE ON APPETITE AT DIFFERENT ALTITUDES – A PILOT STUDY**
Yi-Ping Lin Kuo¹, Kuei-Yu Chien¹, Pei-Chen Chu¹
¹*National Taiwan Sport University*
 CONCLUSION: Exercise at a MA allowed subjects to feel not dull and bored. Appetite VAS showed that subjects were able to eat more 30 mins after exercise than before. Subjects were more likely to crave sweets at SL. Factors associated with post-exercise hunger varied across environments. At SL, there was a negative correlation with BG levels. At MA, it was positively correlated with P&M fatigue.

- P2-080 USING OUTDOOR SPACES TO INCREASE PHYSICAL ACTIVITY AND REDUCE SEDENTARY BEHAVIOUR: RESULTS FROM A PILOT STUDY**
Thayse Natacha Gomes¹, Sara Suikkanen², Kevin Gavin¹, Mabliny Thuany³, Ilkka Väänänen², Alan Donnelly¹
¹University of Limerick, ²LAB University of Applied Sciences, ³University of Porto
 The feasibility of an intervention to evaluate the role of outdoor spaces in increasing physical activity (PA) and reducing sedentary behaviour was tested, sampling 15 inactive adults (Limerick and Lahti cities). No significant differences were observed in the outcomes, but the pilot study's design showed it to be feasible with changes. Future study will compare PA in both "green spaces" and "grey spaces".
- P2-081 SOCIO-ECONOMIC AND ENVIRONMENTAL FACTORS AFFECTING BREASTFEEDING AND COMPLEMENTARY FEEDING PRACTICES AMONG BATWA AND BAKIGA COMMUNITIES IN SOUTH-WESTERN UGANDA**
Giulia Scarpa¹, Lea Berrang Ford¹, Janet Cade¹, Sabastian Twesigomwe², Paul Kakwangire², Maria Galazoula¹
¹University of Leeds, ²IHACC
 We identified four key factors affecting breastfeeding and nutrition practices: marginalisation and poverty; environmental change; lack of information; and poor support. Our findings contribute to the field of global public health and nutrition among Indigenous communities, with a focus on women and children.
- P2-082 THE ROLE OF INDIVIDUAL AND ENVIRONMENTAL FACTORS IN CHILDREN'S PHYSICAL ACTIVITY: A NETWORK ANALYSIS**
Thayse Natacha Gomes¹, Mabliny Thuany², Anderson Santos³
¹University of Limerick, ²University of Porto, ³Federal University of Sergipe
 We verified the complex relationship between individual and environmental factors related to children's PA, in a sample of 145 schoolchildren (aged 6-8y) from a public school in Aracaju (Brazil). Results highlighted the relevance of gestational care, since birthweight is an important factor for children's development and can be related to the possibility to be involved in PA during childhood.
- P2-083 BODY FAT PERCENTAGE DETERMINES THE APPETITE RESPONSES OF POSTMENOPAUSAL WOMEN AFTER A SINGLE BOUT OF INTERMITTENT EXERCISE IN WATER AND ON LAND**
Kuei-Yu Chien¹, Wan-Chun Wu²
¹National Taiwan Sport University, ²National Sports Training Center
 Postmenopausal women with high body fat have significantly lower hunger and desire to eat than those with low body fat after engaging in a single bout of high-intensity intermittent exercise in water and on land.
- P2-084 CHANGES IN SOUTH ASIAN MEAL COOKING METHODOLOGIES IN SOUTH ASIAN ADULTS LIVING IN THE UNITED STATES: RESULTS FROM A FOCUS GROUP IN A FORMATIVE STUDY**
 Samantha Harris¹, Bridget Murphy Hussian¹, Andrew Ashley¹, **Sarika Dasraj¹**, Ola Kiszka¹, Twesha Khanna¹, Sameera Talegawkar², Rupak Shivakoti³, Niyati Parekh¹
¹New York University, ²George Washington University, ³Columbia University
 South Asian (SA) cuisine requires large amounts of time and effort to prepare. Self-identifying SA adults living in the United States (US) took a Qualtrics survey (n=29) and were invited to participate in focus groups (n=16). Four themes emerged about cooking methodologies and meal consumption. This fast-growing immigrant group in the US changed cooking methodologies to fit their new lifestyle.
- P2-085 IDENTIFYING PREDICTORS FOR MINIMUM DIETARY DIVERSITY AND MINIMUM MEAL FREQUENCY IN CHILDREN AGED 6-23 MONTHS IN UGANDA**
Giulia Scarpa¹, Lea Berrang Ford¹, Janet Cade¹, Florence Tushemerirwe², Laura Ahumuza³, Paul Kakwangire⁴, Didacus Namanya³, Maria Galazoula¹
¹University of Leeds, ²Makerere University, ³Ministry of Health Uganda, ⁴IHACC
 By analysing the Ugandan Demographic Health and Surveillance data of 2016, we found that health status, vaccination status and wealth were significantly positively associated with two child nutrition predictors, minimum meal frequency and minimum dietary diversity.

- P2-086 DIET QUALITY ASSESSMENT OF ADULTS WITH CYSTIC FIBROSIS - COMPARISONS TO POPULATION DIETARY GUIDELINES. A CROSS-SECTIONAL STUDY.**
Cian Greaney¹, Katie Bohan¹, Sarah Tecklenborg², Ciara Howlett³, Karen Cronin³, Clodagh Landers⁴, Mary Connolly⁵, Derbhla O'Sullivan⁶, Katie Robinson¹, Audrey Tierney¹
¹University of Limerick, ²Cystic Fibrosis Ireland, ³Cork University Hospital, ⁴St. Vincent's University Hospital, ⁵University Hospital Galway, ⁶University Hospital Limerick
 Energy requirements for adults with cystic fibrosis (CF) have changed. Assessment of diet quality is needed for new guideline development. 3-day food diaries collected dietary data and poor diet quality was observed. Total energy (%) from fat, protein, sugars, and saturated fat were above guidelines. Revision of adult CF dietary guidelines is needed to prevent diet-related chronic disease.
- P2-087 FOOD INSECURITY AND BODY COMPOSITION OF PRESCHOOL CHILDREN**
Erick Segui¹, Tatiana Collese¹, Adriana de Castro¹, Jacqueline da Silva²
¹Centro Universitário São Camilo, ²The University of Edinburgh
 AIM: To describe children's body composition in food insecurity situations. RESULTS: For children in food-secure households(FS), 15.4% were at overweight risk and 100% had adequate height. For children in food-insecure households(FI) 18.5% were at overweight risk and 4.7% had low height. CONCLUSION: Children in FI were more likely to be at overweight risk and had a higher prevalence of low height.
- P2-088 SMELL DYSFUNCTION IS RELATED TO INCREASED INTAKE OF EMPTY CALORIES IN A NATIONALLY REPRESENTATIVE SAMPLE OF ADULTS**
Jacqueline Vernarelli¹, Dawn Melzer¹
¹Sacred Heart University
 Loss of smell and smell dysfunction (olfactory dysfunction, OD) have been documented results of COVID-19 infection, and may contribute to altered eating behaviors post-recovery. Using a nationally representative sample of US adults, the association between OD and dietary intake was assessed. Smell dysfunction was associated with greater intake of empty calories in US adults.
- P2-089 EVALUATING THE COST OF HEALTHY AND SUSTAINABLE DIETS IN MEXICO: METHODOLOGICAL CONSIDERATIONS**
Carolina Batis¹, Andrea Arango¹, Mishel Unar¹
¹National Institute of Public Health, Mexico
 Evidence suggests that healthy diets/foods are more expensive, but findings depend on the methodological approach. In Mexico we found that healthy foods are less expensive by 100 g, but more expensive per 100 kcal. We also compared the cost of baskets generated through the DIETCOST program from INFORMAS and found that healthy and sustainable baskets were less expensive than current baskets.

PATTERNS (MULTIDIMENSIONALITY AND DYNAMISM)

- P2-067 DIETARY PATTERNS, PROCESSED FOODS AND AVAILABILITY NUTRIENTS: CROSS-SECTIONAL STUDY IN COMMUNITY-DWELLING OLDER ADULTS IN SÃO PAULO, BRAZIL**
Rita Aquino¹, Agatha Previdelli²
¹São Judas University, ²Universidad Autónoma de Chile
 The aim of the study was to evaluate the impact of dietary patterns and the food processing in nutrient intake in older adults. Three dietary patterns were evaluated: Traditional Pattern (in natura or minimally processed food), Modified Pattern (processed foods) and Snack Pattern (coffee, milk, bread, butter). The Traditional Pattern was the most appropriate dietary pattern.
- P2-069 MEAL TIMING PATTERNS, SLEEP AND ADIPOSITY**
Camille Lassale¹, Anna Palomar¹, Luciana Pons Muzzo¹
¹ISGlobal (Barcelona Institute of Global Health)
 Cross-sectional study (n=7505) of a population-based cohort of adults 40-79y from Catalonia, Spain. Meal time as exposure, body mass index as outcome, adjusted for sleep time, Mediterranean diet adherence, physical activity and other covariates (sociodemographic, smoking, mental health). Longer fasting hours, earlier bedtimes and earlier time of first meal were associated with lower BMI.

- P2-070 A SCOPING REVIEW TO IDENTIFY NOVEL ANALYTIC METHODS USED TO CHARACTERIZE DIETARY PATTERNS**
Joy Hutchinson¹, Alexandra Peppone¹, Lesley Andrade¹, Amanda Raffoul², Tabitha Williams¹, Sanaa Hussain¹, Sarah McNaughton³, Rebecca Leech³, Jill Reedy⁴, Marissa Shams-White⁴, Jennifer Vena⁵, Kevin Dodd⁴, Lisa Bodnar⁶, Benoit Lamarche⁷, Michael Wallace¹, Sharon Kirkpatrick¹
¹University of Waterloo, ²Harvard Medical School, ³Deakin University, ⁴National Cancer Institute, ⁵Alberta Health Services, ⁶University of Pittsburgh, ⁷Université Laval
A scoping review identified 32 peer-reviewed studies describing novel analytic methods to characterize dietary patterns. Machine learning was used in 22 studies, latent class analysis in seven, least absolute shrinkage and selection operator in two, and one study used compositional data analysis. Most studies (21) assessed relationships between dietary patterns and health outcomes.
- P2-072 DIET QUALITY ACROSS THE LIFESPAN: HEALTHY EATING INDEX-2020 AND HEALTHY EATING INDEX-TODDLERS-2020**
Jill Reedy¹, **Kirsten Herrick¹**, Marissa Shams-White¹, Jennifer Lerman¹, TusaRebecca Pannucci², Meghan Zimmer¹, Kevin Meyers Mathieu², Lisa Kahle³, Eve Stoodly²
¹National Cancer Institute, ²United States Department of Agriculture, ³IMS
The Healthy Eating Index (HEI) was developed to measure alignment with U.S. dietary guidelines which are updated every 5 years. As the guidance has evolved, the HEI has evolved, too. The release of the latest HEI includes 2 separate indices to reflect the most recent advances: the HEI-2020 (for children and adults 2 years and older) and the HEI-Toddlers-2020 (for toddlers 12 through 23 months).
- P2-073 DEVELOPMENT AND COMPARISON OF TWO INDICES REFLECTING THE GERMAN FOOD BASED DIETARY GUIDELINES AND THE EAT-LANCET RECOMMENDATIONS**
Almut Richter¹, Ramona Moosburger¹, Julika Loss¹, Gert Mensink¹
¹Robert Koch Institute
Two indices based on the national Food Based Dietary Guidelines and the EAT-Lancet Commission's Healthy Reference Diet were developed and applied to data from a national health survey in Germany. The evaluation of meat, fish, milk and cereals, show noticeable differences between the indices due to different definitions of the food groups, recommended intake and evaluation criteria.
- P2-074 BRAZILIAN ELDERLY EATING PATTERNS ASSOCIATED WITH DIETARY VARIABLES RELATED TO TYPE 2 DIABETES MELLITUS: COMPARISON OF TWO HYBRID METHODS**
Tais Lopes¹, Luna Alves¹, Natália Silva¹, Mariana Marques¹, Luciana Guerra¹, Edna Yokoo², Rosely Sichieri³, Rosângela Pereira¹
¹Federal University of Rio de Janeiro, ²Fluminense Federal University, ³State University of Rio de Janeiro
PLS and RRR were applied to identify and compare dietary patterns associated with type 2 diabetes mellitus-related dietary variables in Brazilian elderly (n=7,811) investigated in the 2017-2018 National Dietary Survey. Both methods explained similarly the food consumption variation and the first pattern was the most interpretable one, including energy-dense, added-sugar, and low-fiber dense items.
- P2-075 CARDIOVASCULAR HEALTH DIET INDEX AND ITS ASSOCIATION WITH SUBCLINICAL ATHEROSCLEROSIS: PREDICTIVE CRITERION VALIDITY AFTER AN 8-YEAR FOLLOW-UP PERIOD**
Leandro Cacao¹, Isabela Bensenor¹, Paulo Lotufo¹, Dirce Marchioni¹
¹University of São Paulo
The Cardiovascular Health Diet Index (CHDI) is a newly proposed diet quality score for cardiovascular health, adapted to the Brazilian food culture. Using data from the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil) cohort, we found that a 10-point increase in the CHDI score was associated with a decrease in subclinical atherosclerosis after an 8-year follow-up period.
- P2-076 ASSESSING MACRONUTRIENTS RELIABILITY IN THREE-DAY DIET RECORDS OF PORTUGUESE CHILDREN AGED 4 TO 13 YEARS: GENERATION XXI BIRTH-COHORT**
Milton Severo¹, Ana Marinho¹, Carla Lopes¹
¹University of Porto
This study evaluated the reliability of macronutrients and their subtypes using 3-day dietary records from a Portuguese child cohort aged 4 to 13 years. The study identified 3 clusters of macronutrients with varying levels of reliability, decreasing with age, and attaining the lowest value at 10 years. The study concluded that the number of days needed for data collection depends on the age group.

CORRELATION BETWEEN A NEW SCREENER TO ASSESS ADHERENCE TO CANCER PREVENTION RECOMMENDATIONS WITH OTHER VALIDATED NUTRITIONAL ASSESSMENT TOOLS IN WOMEN TREATED FOR BREAST CANCER

Mar Nafría Fernández¹, Alice Chaplin², Javier Cortés Bordoy³, Albert Sesé⁴, Antoni Aguiló⁴, Dora Romaguera²

¹Hospital Universitari Son Espases, Balearic Islands ²Health Research Institute of the Balearic Islands (IdISBa); Consorcio CIBER, M.P. Fisiopatología de, ³Royal Academy of Medicine of the Balearic Islands, ⁴University of the Balearic Islands

A short screener (Nutri S-Can) to assess adherence to cancer prevention recommendations has been developed and is currently under validation. Our aim was to correlate the Nutri S-Can with validated tools in women undergoing treatment for breast cancer (internal validation process). Our results show that Nutri S-Can correlates well with other validated indicators of diet quality and physical activity.

Poster Session #3

Thursday, June 29

12:15-14:00

DATABASE DEVELOPMENT AND RESOURCES

P3-110 TOOLKIT TO SUPPORT THE PROMOTION OF HEALTH-ENHANCING PHYSICAL ACTIVITY IN SMALL TO MEDIUM-SIZED ENTERPRISES

Ilkka Väänänen¹, Anna Puig-Ribera², Frank Vandaele³, Sebastià Mas-Alòs⁴, Anna Codina-Nadal², Ine De Clerck³

¹LAB University of Applied Sciences, ²University of Vic-Central University of Catalonia, ³Artevelde University of Applied Sciences, ⁴National Institute of Physical Education of Catalonia

This study aimed to identify, describe, and comprehensively summarize the real-life implementations of workplace physical activity initiatives to disseminate future feasible practices for small to medium sized enterprises. A scoping review of grey literature, and qualitative and quantitative analysis methods were used to sort, group and categorize the initiatives (n=714) into main themes.

P3-111 NUTRIENTS AND FOOD COMPONENTS (NFC) IN USA NATIONAL DIETARY SURVEILLANCE

Katherine Hoy¹, Anna Waller¹, Kelly Kogan², Regan Bailey², Diane Mitchell², Alexandra Cowan², Alanna Moshfegh¹

¹US Department of Agriculture, ²Texas A&M AgriLife Research

The first national food consumption survey in the U.S. was conducted in 1965-66 and provided dietary intakes of energy and 9 nutrients; the database has since expanded to include 65 NFC. This presentation will provide an overview of the NFC reported in national dietary surveillance across six decades and describe challenges and needs to create standardized criteria for U.S. monitoring databases.

P3-112 EMPIRICALLY DERIVED PORTION SIZES FROM THE DONALD STUDY FOR 4 TO 18 YEAR OLD CHILDREN AND ADOLESCENTS TO SIMPLIFY ANALYSIS OF DIETARY DATA USING FFQ

Maïke Schnermann¹, Ute Nöthlings¹, Ute Alexy¹

¹University of Bonn

To apply food frequency questionnaires (FFQ) in young ages, knowledge about portion sizes is relevant. We empirically derived portion sizes from 3-day weighed food records for five age groups using data of 4 to 18 year old participants from a German cohort. Overall, portion sizes tend to increase with age. Our data are useful to establish dietary assessment with FFQ for children and adolescents.

P3-113 AN ANALYSIS OF METHODS USED TO ASSESS THE USABILITY AND ACCEPTABILITY OF TECHNOLOGY-BASED DIETARY ASSESSMENT TOOLS

Hannah Al-Sehaim¹, Laura Kehoe¹, Janette Walton¹

¹Munster Technological University

DIETARY DEAL is an EU project, tasked to develop an online researcher-led dietary assessment tool (DAT) to harmonise collection of dietary data in Europe. This study aims to identify the methods used to assess the usability & acceptability of technology-based DATs which will inform the development of this new tool.

P3-114 NUTRIFOODCALC (NFC) A NEW WEB-BASED FOOD AND NUTRIENT CALCULATION SYSTEM

Anette Hjartåker¹, Monica Hauger Carlsen¹

¹University of Oslo

We are developing an open access, easy-to-use, advanced cost-effective e-infrastructure for diet assessment with comprehensive food compositions databases for estimation of intake of foods, nutrients, other dietary components, and toxic substances. The e-infrastructure includes food composition databases, a complex food and nutrient calculation system and diet assessment tools.

P3-115 THE RELATIVE VALIDITY OF A SEMI-QUANTITATIVE FOOD FREQUENCY QUESTIONNAIRE AMONG PREGNANT WOMEN IN THE UNITED ARAB EMIRATES: THE MUTABA AH STUDY

Aisha Almulla¹, Luai Ahmed², André Hesselink¹, Hanna Augustin¹, Linnea Bärebring¹

¹University of Gothenburg, ²United Arab Emirates University

Assessing the relative validity of a semi-quantitative Food Frequency Questionnaire in evaluating the nutritional intake among pregnant women in the United Arab Emirates using a single 24-Hour Dietary Recall as a reference method.

- P3-116 IMPROVING THE ASSESSMENT OF TRADITIONAL PLANT-BASED DIETS: DEVELOPMENT AND VALIDATION OF A MIDDLE EASTERN MEDITERRANEAN DIET FOOD PHOTOGRAPH ALBUM**
Krasimira Aleksandrova¹, Manal Badrasawi², **Anne-Kathrin Illner**³, Mohammad Altamimi⁴
¹Leibniz Institute for Prevention Research and Epidemiology – BIPS, ²Abu Dhabi University, ³Institut Polytechnique UniLaSalle, ⁴Faculty of Agriculture and Veterinary Medicine, An-Naja
Traditional plant-based diets such as the Middle Eastern Mediterranean diet may provide an affordable and culturally acceptable approach towards transition to a healthy and sustainable dietary behaviour. To facilitate the assessment of adherence to Middle Eastern Mediterranean diet, we developed and validated a food photograph album consisting of 1,002 photos covering 400 foods and dishes.
- P3-117 EVALUATION OF CATCH-24: A 24-HOUR DIETARY RECALL APP FOR USE IN LOW- AND MIDDLE INCOME COUNTRIES**
Karin Borgonjen-van den Berg¹, Taonga Chirwa-Moonga², Desiree Lucassen¹, Edith Feskens¹, Elise Talsma¹
¹Wageningen University, ²University of Zambia
The recently developed Catch-24 app is an interviewer-based app for use in small-scale studies, that can be used in LMIC and requires minimal preparation before data collection can start. The current study aims to evaluate the actual intake of food groups, energy and nutrients on group- and individual level as assessed with the Catch-24 app.
- P3-118 ULTRA-PROCESSED FOOD COMSUMPTION AMONG FRENCH AND BULGARIAN ELDERLY**
Anne-Kathrin Illner¹, Jeremy Deswen², Narcisse Niamba¹, Junaida Astina³, Siti Muslimatun³, Rouzha Pancheva⁴, Dora Kostadinova⁴, Klara Dokova⁴, Natalya Usheva⁴, Krassimira Aleksandrova⁵
¹Institut Polytechnique UniLaSalle, ²Indonesia International Institute for Life Sciences, ³Indonesia International Institute for Life-sciences, ⁴Medical University of Varna, ⁵Leibniz Institute for Prevention Research and Epidemiology
The global consumption of ultra-processed foods (UPFs) is associated with obesity and non-communicable diseases. However, little is known about UPF consumption among the elderly who are physiologically vulnerable. This study conducted in Bulgaria and France aimed to assess food choice and frequency related to UPF consumption in a standardized way among individuals aged 65+.
- P3-119 DEVELOPMENT OF AN EATING INDEX TO MEASURE ADHERENCE TO DIETARY GUIDELINES IN HEALTHY OLDER NEW ZEALAND ADULTS**
Kathryn Beck¹, Karen Mumme¹, Jamie de Seymour¹, Cathryn Conlon¹, Pamela von Hurst¹, Harriet Guy¹, Cheryl Gammon¹
¹Massey University
A New Zealand Eating Index for Healthy Older People was developed. Participants 65-74y (n=273) completed a food frequency questionnaire twice (reproducibility) and a 4-day food record (validity) and index scores were derived. The index demonstrated acceptable to good validity and reproducibility based on mean differences, correlation coefficients, weighted kappa values and Bland Altman analysis.
- P3-120 UPDATE AND EVALUATION OF KOREAN HEALTHY EATING INDEX FOR KOREAN ADULTS**
Sihyun Park¹, Ji Eun Yang¹, Jin Young Park¹, Min Jung Kim¹, Eunbin Jo¹, Kyungwon Oh¹
¹Korea Disease Control and Prevention Agency
The Korean Healthy Eating Index (KHEI) was updated to change one component evaluating 'percentage of energy from sweets and beverages' to 'that from dietary sugar in all type of foods', as the sugar database was developed. The updated KHEI (KHEI-U) score was about 2 out of 100 points lower than KHEI score. The KHEI-U was inversely associated with the prevalence of nutritional risk and obesity.
- P3-121 FEEDING THE FUTURE (FEED): AN ONLINE STUDY INVESTIGATING CONTEMPORARY PLANT-BASED DIETS IN THE UK**
Izabella Lawson¹, Keren Papier¹, Timothy Key¹
¹University of Oxford
Feeding the Future (FEED) is an online study describing contemporary plant-based diets in UK adults. Dietary intakes were measured for 5,758 participants using an adapted EPIC-UK study FFQ and free text. Most (96%) FFQ foods were mapped to the NDNS nutrient databank (NDB) and the remainder to foodDB, based on additional information provided by participants who consumed plant-based alternatives.

- P3-122 THE NEW WORLD OF FOOD COMPOSITION DATA AT THE UNITED STATES DEPARTMENT OF AGRICULTURE, FOODDATA CENTRAL**
Kyle McKillop¹
¹US Department of Agriculture ARS
 USDA's FoodData Central (FDC, fdc.nal.usda.gov) is an integrated data system that provides expanded nutrient profile data and links to related agricultural and experimental research. FDC contains five unique types of data to meet the diverse needs of researchers. These data provide valuable insights on factors that influence variability of classic nutrients and emerging bioactive compounds.
- P3-123 APPLYING PRAGMATIC APPROACHES FOR EFFICIENCY IN LARGE-SCALE DIETARY ASSESSMENT IN MULTIPLE LOW-MIDDLE INCOME SETTINGS: THE SOUTH ASIA BIOBANK**
Birdem Amoutzopoulos¹
¹University of Cambridge/on behalf of NIHR Global Health Research Unit, South Asia Biobank investigators and collaborators.
 The production and processing of dietary data representing a large low-middle income setting required pragmatic approaches at various levels which included developing a default missing food coding approach and improving portion estimations to represent multiple regions.
- P3-124 METHODS FOR IDENTIFYING AND CLASSIFYING FOOD CODES AS SOURCES OF LOW- AND NO-CALORIE SWEETENERS: A STANDARDIZED APPROACH FOR NUTRITION SURVEILLANCE IN CANADA**
Lesley Andrade¹, Sanaa Hussain¹, Isabelle Rondeau², Allison Sylvetsky³, Navreet Singh¹, Michael Wallace¹, Kevin Dodd⁴, Sharon Kirkpatrick¹
¹University of Waterloo, ²Health Canada, ³The George Washington University, ⁴National Cancer Institute
 A standardized approach for classifying food codes from Canadian food composition databases as sources of low- and no-calorie sweeteners--food additives used to impart sweetness with few to no calories--was developed. Of 5,181 food codes, 122 (including 46 instances of ingredients in recipe codes) were classified as sources of low- and no-calorie sweeteners. Most sources were beverages.
- P3-125 THE NATIONAL COLLABORATIVE ON CHILDHOOD OBESITY RESEARCH (NCCOR) CATALOGUE OF SURVEILLANCE SYSTEMS AND MEASURES REGISTRY: 10 YEARS OF PROGRESS AND LOOKING TOWARD THE FUTURE**
Marissa Shams-White¹, David Berrigan¹, Amanda Sharfman², Laura Kettel Khan³, Ellen Stowe³, Stephanie George¹, Jill Reedy¹
¹National Institutes of Health, ²FHI 360, ³Centers for Disease Control and Prevention
 In the last decade 2 of NCCOR's landmark tools have been widely applied: (1) the Catalogue of Surveillance Systems, a Catalogue of publicly available datasets, and (2) the Measures Registry, a database of diet and physical activity (PA) measures across 4 domains relevant to childhood obesity: individual diet, food environment, individual PA, and PA environment.
- P3-127 ESTIMATED FLAVONOID INTAKE AND MAJOR FOOD CONTRIBUTORS IN THE PORTUGUESE POPULATION: THE NATIONAL FOOD, NUTRITION AND PHYSICAL ACTIVITY SURVEY (IAN-AF-2015-2016)**
 Sofia Martins¹, Manuela Meireles¹, Estela Caetano¹, **Catarina Carvalho¹**, Vânia Magalhães¹, Sofia Vilela¹, Carla Lopes¹, Duarte Torres¹
¹University of Porto
 This study presents the results of the estimated intake of total flavonoids, each main subclass and major flavonoid food contributors in the Portuguese population. Moreover, the developed methodological approach to flavonoid estimation, combining data from USDA and Phenol-Explorer databases, is exposed using the FoodEx2 food classification system.
- P3-128 WHAT IS NEW AND WHAT IS NEXT FOR THE AUTOMATED SELF-ADMINISTERED 24-HOUR DIETARY ASSESSMENT TOOL (ASA24)**
Kirsten Herrick¹, Marissa Shams-White¹, Jennifer Lerman¹, Beth Mittl², Amy Miller², Meghan Zimmer³, Emily Krueger¹, Thea Zimmerman², Deirdre Douglass², Sharon Kirkpatrick⁴, Sydney O'Connor⁵, Lauren O'Connor¹
¹National Institutes of Health/National Cancer Institute, ²Westat, ³Harvard T.H. Chan School of Public Health, ⁴University of Waterloo, ⁵National Institutes of Health
 The U.S. National Cancer Institute (NCI) continually enhances ASA24 to expand its utility to address evolving areas of research and improve overall functionality. Since 2009, researchers have collected almost 800,000 dietary recalls and records using ASA24. As of December 2022, 750 peer-reviewed publications describe studies that used ASA24 to collect dietary intake data.

- P3-129 DEVELOPMENT OF DIGITAL FORMS FOR RESEARCH IN NUTRITION AND PREGNANCY IN THE EPICOLLECT 5 PLATFORM**
Camilla Rocha¹, Karolyne Torres¹, Thainá Calderoni², Michelle Teixeira², Valeria Braulio¹, Jane C Capelli¹, Flávia Lima¹, Mônica Carvalho¹
¹Federal University of Rio de Janeiro, ²Federal University of State of Rio de Janeiro
 Data quality is a challenge presented to researchers from different areas. This study describe digital forms build on a free and open source plataform that comprised 4 steps during 4 months. New technologies can bring benefits to research despite the limitations and resistance use.
- P3-130 USING THE CHANGE IN INCLINATION OF THE THIGH TO CHARACTERISE SLOW STEPPING**
David Loudon¹, Douglas Maxwell¹
¹PAL Technologies Ltd
 Slow walking is a key health indicator in older adults and people with chronic mobility limiting conditions. We describe an algorithm to detect slow walking from a thigh-worn accelerometer using the inclination signal. The algorithm distinguishes between slow stepping and normal/fast paced stepping by pre-processing the data into dynamic acceleration envelopes.

METHODS DEVELOPMENT AND FEASIBILITY AND VALIDATION RESEARCH

- P3-091 DIETARY ASSESSMENT AT THE DIVISION OF HUMAN NUTRITION AND HEALTH**
Desiree Lucassen¹, Corine Perenboom¹, Karin Borgonjen-van den Berg¹, Hanne de Jong¹, Els Siebelink¹, Elske Brouwer-Brolsma¹, Guido Camps¹, Edith Feskens¹
¹Wageningen University and Research
 At the division of Human Nutrition and Health of Wageningen University we strive to innovate dietary assessment. Our trained dieticians perform dietary history interviews, perform controlled dietary trials, or use duplicate portions. Moreover, we integrate new technologies (e.g., web-based technologies, smartphone apps, sensors), to improve dietary intake and eating behavior assessment.
- P3-092 DEVELOPMENT AND VALIDATION OF THE PERCEIVED COMMUNITY FOOD ACCESSIBILITY MEASUREMENT FOR THE KOREAN OLDER ADULTS**
Kirang Kim¹, Seulgi Lee¹
¹Dankook University
 The objective of this study was to develop the perceived community food accessibility (CFA) questionnaire applicable to the older adults in Korea and evaluate its reliability and validity. We evaluated internal consistency reliability, construct validity and criterion-related validity. The perceived CFA questionnaire was shown to be reliable and valid and useful to assess the older adults? CFA.
- P3-093 EVALUATION OF A TODDLER DIET QUALITY INDEX IN THE BABY'S FIRST BITES STUDY TO ASSESS ADHERENCE TO THE DUTCH FOOD-BASED DIETARY GUIDELINES**
Hanne de Jong¹, Janneke Schultink², Jeanne de Vries²
¹Wageningen University and Research, ²Wageningen University
 We evaluated a newly developed Dutch toddler diet quality index (TDQI) by comparing it to nutrient intake, nutrient density, and child and maternal characteristics. We conclude that the TDQI provides a valuable tool for monitoring the dietary intake of 2-3-years olds in the Netherlands. It offers a simplified and concise representation of a child's diet quality by scoring 13 relevant food component.
- P3-094 DUTCH SELF-ADMINISTERED WEB-BASED DIETARY 24-H RECALL TOOL (COMPL-EATTM) ADAPTED TO ASSESS THE DIETARY INTAKE OF CHILDREN AGED 1-3 YEARS**
Corine Perenboom¹, Janneke Schultink¹
¹Wageningen University
 Compl-eat is a Dutch food calculation program which contains a self-administered web-based 24-h recall module. This module is adapted to assess intake of children aged 1-3 years, by adding specific foods and some textual adjustments. The adapted module is used in the Baby's First Bites study. We conclude the program may be a useful tool for children, but needs further improvements and evaluation.

- P3-096 DESIGNING DIETS FOR CONTROLLED DIETARY TRIALS WITH THE HELP OF MIXED INTEGER LINEAR PROGRAMMING**
Els Siebelink¹, Johanna Gerdessen¹, Karin Borgonjen-van den Berg¹, Edith Feskens¹
¹*Wageningen University*
 Controlled dietary trials are an important method to study the effect of intake of foods, nutrients or food-patterns on markers of diseases or health outcomes. Supporting the practical knowledge of the research dietician with a MILP model facilitates the design procedure and lowers the development costs. The model can be used to calculate and compare different options in a short period of time.
- P3-097 A SCOPING REVIEW ON THE GLOBAL NUTRITION TRANSITION: MAPPING THE EVIDENCE ON DIETARY CHANGES IN GENERAL ADULT POPULATIONS**
Anne-Kathrin Illner¹, Caue Egea Rodrigues², Jessica Singh³, Krasimira Aleksandrova⁴
¹*Institut Polytechnique UniLaSalle*, ²*Freie Universität Berlin*, ³*La Trobe University*, ⁴*Leibniz Institute for Prevention Research and Epidemiology*
 A robust global evidence base on the ongoing nutrition transition is lacking, though crucial to develop and improve disease prevention policies and nutrition on a population level. The objective of this scoping review was to identify, explore and map the literature on nutrition transition based on dietary changes reported in general adult populations globally.
- P3-098 THE IMPACT OF WEIGHT BIAS AND STIGMA ON ENERGY MISREPORTING IN 24-HOUR DIETARY RECALLS**
Erica Howes¹, Molly Parker¹, Sarah Misyak¹, Valisa Hedrick¹
¹*Virginia Tech*
 This study examined the impact of weight stigma on energy underreporting in adults with overweight and obesity. 67% of the sample reported ever experiencing weight stigma. Weight stigma was not predictive of underreporting, though it could impact participation rates for people with obesity in dietary studies. Researchers should try to minimize stigmatizing communication in nutrition research.
- P3-099 A SYSTEMATIC REVIEW OF VALIDATED FOOD QUANTIFICATION AIDS FOR DIETARY ASSESSMENT**
Elijah Fadeye¹, Hannah Al-Sehaim², Jacqueline McCormack¹, Laura Kehoe², Janette Walton², Amy Mullee¹
¹*Atlantic Technological University*, ²*Munster Technological University*
 This systematic review aims to identify validated food quantification aids. Out of 16302 abstracts screened from 4 databases, 332 underwent full-text review. Data were extracted from 70 articles, with 87 food quantification aids identified. The majority were standardized food photographs and used weighted portions as the comparator. Overall, methods used for validation were of variable quality.
- P3-100 VALIDITY AND RELIABILITY OF mADI AGAINST 7 DAY DIETARY INTAKE IN ASSESSING FOOD CONSUMPTION OF IRISH ATHLETES**
Alexandra Cremona¹, Keela Spillane¹, Brian Coady¹, Hamid Heidarian Miri¹
¹*University of Limerick*
 The aim of this study was to assess validity and reliability of a modified Athlete Diet Index (mADI) tool in an Irish athletic population. A sample of 80 surveys were compared to 7-day food record dietary intakes. mADI demonstrated an acceptable validity when the number of measurements increases, for example in a group of athletes.
- P3-101 INVESTIGATING THE NEED FOR A QUALITATIVE METHOD FOR ESTIMATING MILK ON CEREAL PORTION SIZES IN INTAKE24**
 Suzanna Abraham¹, **Toni Steer¹**, Angela Mulligan¹, Kirsty Trigg¹, Anila Farooq¹, David Collins¹, Jackie Foreman¹, Polly Page¹
¹*University of Cambridge*
 We investigated the value of simplifying milk on cereal portion estimation and adding a qualitative method for estimating milk on cereal in Intake24. Milk to cereal ratios were calculated from datasets based on different estimation methods. Overall, ratios were similar across datasets, but they varied when accounting for cereal type. This suggests the qualitative method could be added to I24.

- P3-102 OPTIMIZATION OF THE ASSESSMENT OF THE DIETARY COMPONENTS INCLUDED IN THE WEB-BASED LIFECRC SCORE AS A PRIMARY PREVENTION TOOL FOR COLORECTAL CANCER: A PILOT FEASIBILITY STUDY**
Krasimira Aleksandrova¹, **Anne-Kathrin Illner**², Noémie Blanstier², Léna Ducher², Lucie Naggea², Manon Williot², Flore Depeint², Robin Reichmann¹
¹Leibniz Institute for Prevention Research and Epidemiology – BIPS, ²Institut Polytechnique UniLaSalle
This pilot feasibility study aimed to optimize the assessment of the dietary components of the web-based LifeCRC score as primary prevention tool for colorectal cancer. An image-library was specifically created to depict foods and drinks included as components of the LifeCRC score. The accurate assessment of the dietary components in the web-based LifeCRC tool is critical before its application.
- P3-103 REPRODUCIBILITY AND VALIDITY OF A SELF-REPORTED EATING-OCCASION FREQUENCY AND TIMING GRID IN THE CANCER PREVENTION STUDY-3 DIET ASSESSMENT SUBSTUDY**
Marjorie McCullough¹, Terryll Hartman², Matthew Masters¹, W. Dana Flanders², Ying Wang¹, Mengyi Li², Diane Mitchell³, Mark Guinter¹, Alpa Patel¹
¹American Cancer Society, ²Emory University, ³Pennsylvania State University
Accurate assessment of eating occasion timing and frequency is important for evaluating associations with obesity and other chronic diseases, but large epidemiologic studies often lack this information. We assessed the reproducibility and relative validity of a 24-hour grid designed to assess eating occasion timing and frequency among 626 participants in the Cancer Prevention Study-3.
- P3-104 AGREEMENT BETWEEN WEB-BASED SELF-ADMINISTERED AND INTERVIEWER-ADMINISTERED 24HR-RECALL IN SWEDISH YOUTH**
Isabelle Mulkerrins¹, Anine Christine Medin², Synne Groufh-Jacobsen¹, Claire Margerison³, Christel Larsson¹
¹University of Gothenburg, ²University of Agder, ³Deakin University
Self-administered web-based 24hr-recall capture dietary intake of Swedish youths acceptable to a more time-consuming interviewer-administered 24hr-recall. Although, high intakes of carbohydrates and fat may be under-reported by youths when completing recalls on their own. Validity of the self-administered method will be assessed by doubly-labelled water as part of the VeggiSkills-Sweden project.
- P3-106 REPRODUCIBILITY AND VALIDITY OF THE OVERALL, HEALTHY, AND UNHEALTHY PLANT-BASED DIETARY INDICES IN THE CANCER PREVENTION STUDY-3 DIET ASSESSMENT SUB-STUDY**
Benjamin Cousineau¹, Ellen Mitchell², Viola Vaccarino¹, Jessica Alvarez¹, W Dana Flanders¹, Aryeh Stein¹, Diane Mitchell³, Marjorie McCullough², Terryll Hartman¹
¹Emory University, ²American Cancer Society, ³Pennsylvania State University
The reproducibility and validity of the Overall, Healthy, and Unhealthy Plant-based Diet Indices was evaluated using the Cancer Prevention Study-3 Diet Assessment Sub-Study. Participants completed two food-frequency questionnaires and up to six 24-hour dietary recalls. Results demonstrated moderate to good reproducibility and validity among the three diet indices.
- P3-108 TRADE-OFFS BETWEEN INFORMAL AND FORMAL METHODS FOR ANALYZING COGNITIVE INTERVIEW DATA TO INFORM A DIETARY SCREENER**
Sharon Kirkpatrick¹, Tabitha Williams¹, Elena Neiterman¹, Simone Lemieux², Joy Hutchinson¹, Ailish Westaway¹
¹University of Waterloo, ²Université Laval
Cognitive testing can identify problems in dietary assessment tools, but cognitive interview data analysis methods are not well-documented. We explored trade-offs between informal (coding of interview notes) and formal (transcription and framework analysis) methods to analyze interview data to inform a dietary screener. The discrepancies were unlikely to have meaningfully impacted the screener.

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